ORDER NO. KM40110694C3

Service Manual

Telephone Equipment

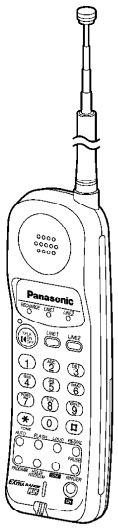
2 LINE

KX-TC1085BXB

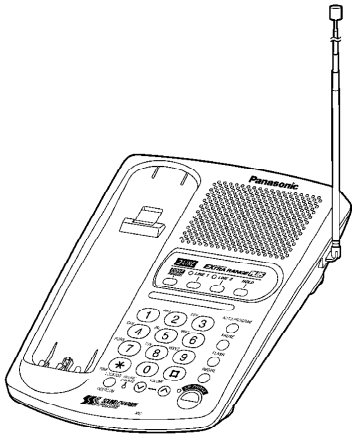
Cordless Phone

Black Version

(for Asia, Middle Near East and Other areas)



(HANDSET)



(BASE UNIT)

SPECIFICATIONS

SPECIFICATIONS

General

Modulation:	FM, 5kHz Deviation	Pause:	3.5 seconds per pause
Frequency Stability:	±2.5 kHz	Memory Capacity:	11 telephone numbers, up to 22 digits per station
Dial Type:	Tone (DTMF)/Pulse		
Redial:	Last dialed number each time the Redial button is pressed		

	Base Unit	Handset
Power Sourse: (Receiver Section)	AC adaptor PQLV14BXZ (DC 12 V)	Built-in rechargeable Ni-Cd battery
Receiving Frequency:	10 channels within 49.67 to 49.97 MHz	10 channels within 43.72 to 44.20 MHz
Adjacent Channel Rejection:	40 dB	40 dB
Sensitivity: (Transmitter Section)	1dBμV for 20 dB S/N	2 dBμV for 20 dB S/N
Transmitting Frequency:	10 channels within 43.72 to 44.20 MHz	10 channels within 49.67 to 49.99 MHz
Jacks:	DC IN, Telephone line	
Antenna:	Telescopic	Telescopic
Speaker:	5.7cm 32Ω Speaker	$1\frac{3}{16}$" (3 cm) dynamic
Microphone:	Condenser microphone	Condenser microphone
Dimensions (H X W X D):	$2\frac{5}{32}$" X 6 $\frac{1}{2}$ " X $8\frac{15}{32}$" (55 X 165 X 215 mm)	$9\frac{9}{16}$" × $2\frac{3}{32}$" × $1\frac{9}{16}$" (243 × 53 × 40 mm)
Weight:	0.99 lbs. (450g)	0.53 lbs. (240g) with battery

Design and specifications are subject to change without notice.

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

When you note the serial number, write down all 11 digits. The serial number may be found on the bottom of the unit.

FOR SERVICE TECHNICIANS

ICs and LSIs are vulnerable to static electricity.
When repairing, the following precautions will help prevent recurring malfunctions.
1. Cover plastic parts boxes with aluminum foil.
2. Ground the soldering irons.
3. Use a conductive mat on worktable.
4. Do not grasp IC or LSI pins with bare fingers.

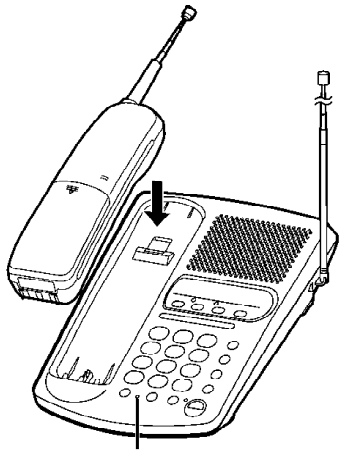
Panasonic

1. STANDARD BATTERY LIFE

Battery Charge

Place the handset on the base unit and charge the battery for about **10 hours** before initial use.

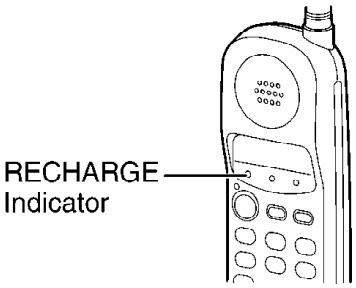
- The IN USE/CHARGE indicator lights.



Recharge

When the RECHARGE indicator flashes, or the unit beeps intermittently, recharge the battery for about 10 hours.

- If you DO NOT recharge the handset battery for more than 30 minutes, the RECHARGE indicator will continue to flash.



Battery information

After your Panasonic battery is fully charged:

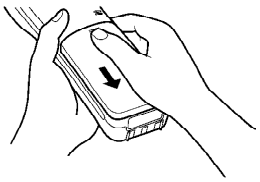
Operation	Operating time
While in use (TALK)	Up to about 6 hours
While not in use (Stand-by)	Up to about 30 days

- The battery operating time may vary depending on usage conditions and ambient temperature.
- **Clean the handset and the base unit charge contacts with a soft, dry cloth. Clean if the unit is subject to grease, dust or high humidity.** Otherwise the battery may not charge properly.
- If the battery is fully charged, you do not have to place the handset on the base unit until the RECHARGE indicator flashes. This will maximize the battery life.
- The battery cannot be overcharged.

Battery Replacement

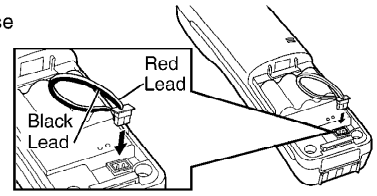
If the RECHARGE indicator flashes after being fully charged, replace the battery with a new Panasonic P-P301 (KX-A36A) battery. To avoid loss of memory, replace within 3 minutes.

1 Remove the cover by sliding while pressing the arrow.

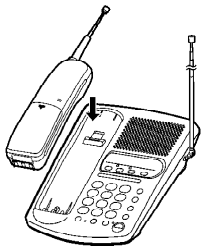


2 Replace the battery and close the cover.

Be sure wires are free from being pressed by the battery body or the handset cover.

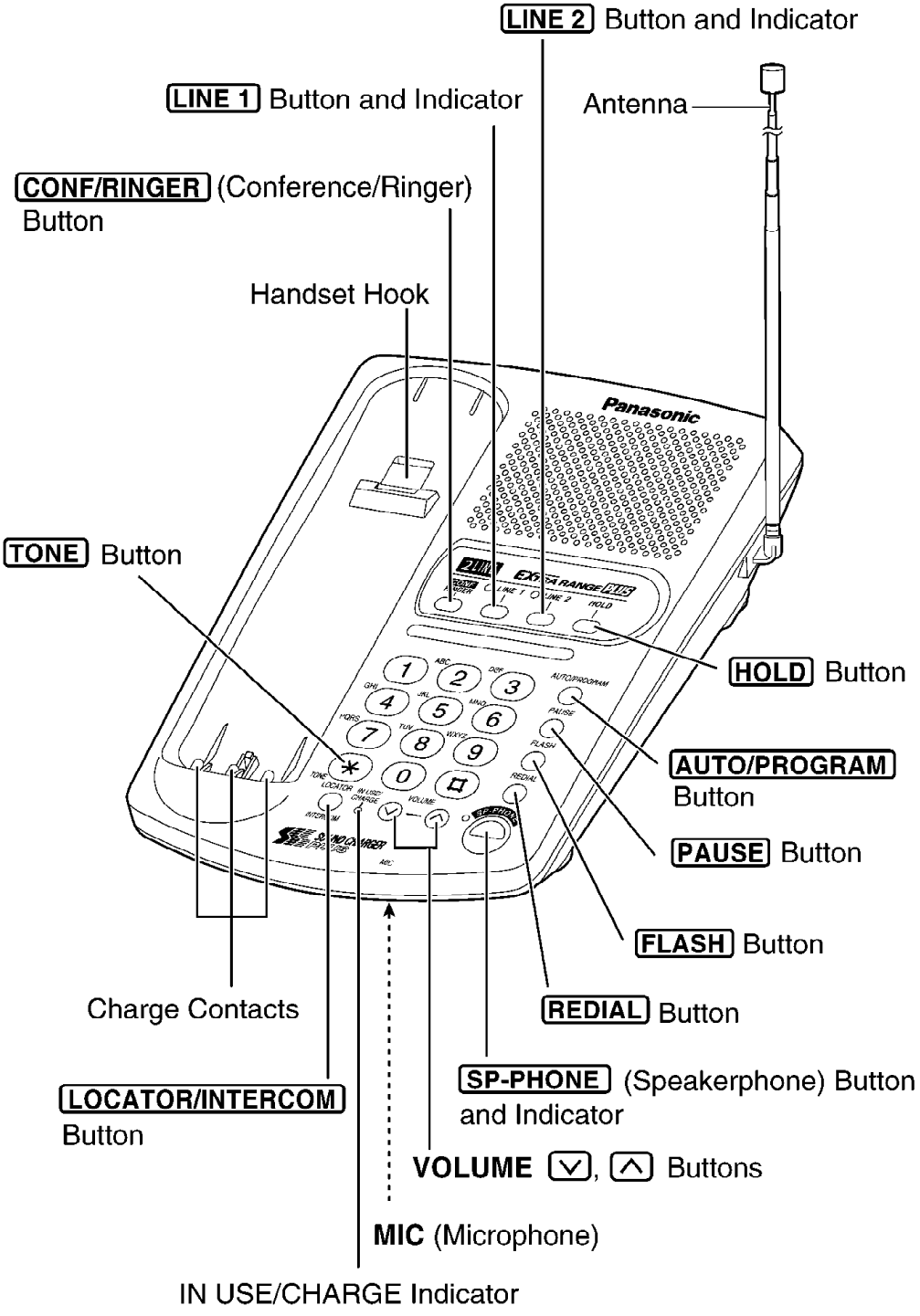


3 Be sure to charge the new battery for about 10 hours.

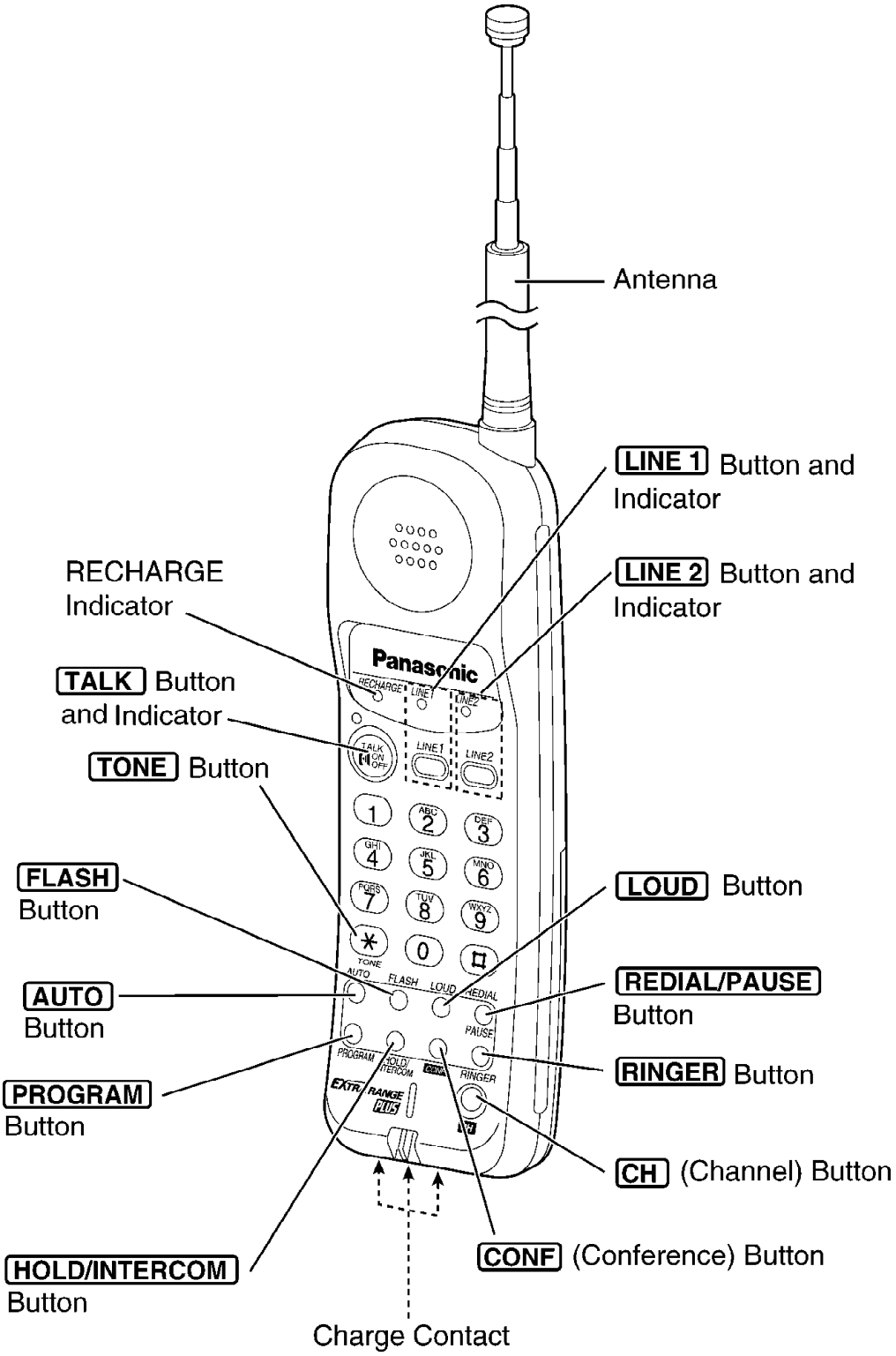


2. LOCATION OF CONTROLS

2.1. Base unit

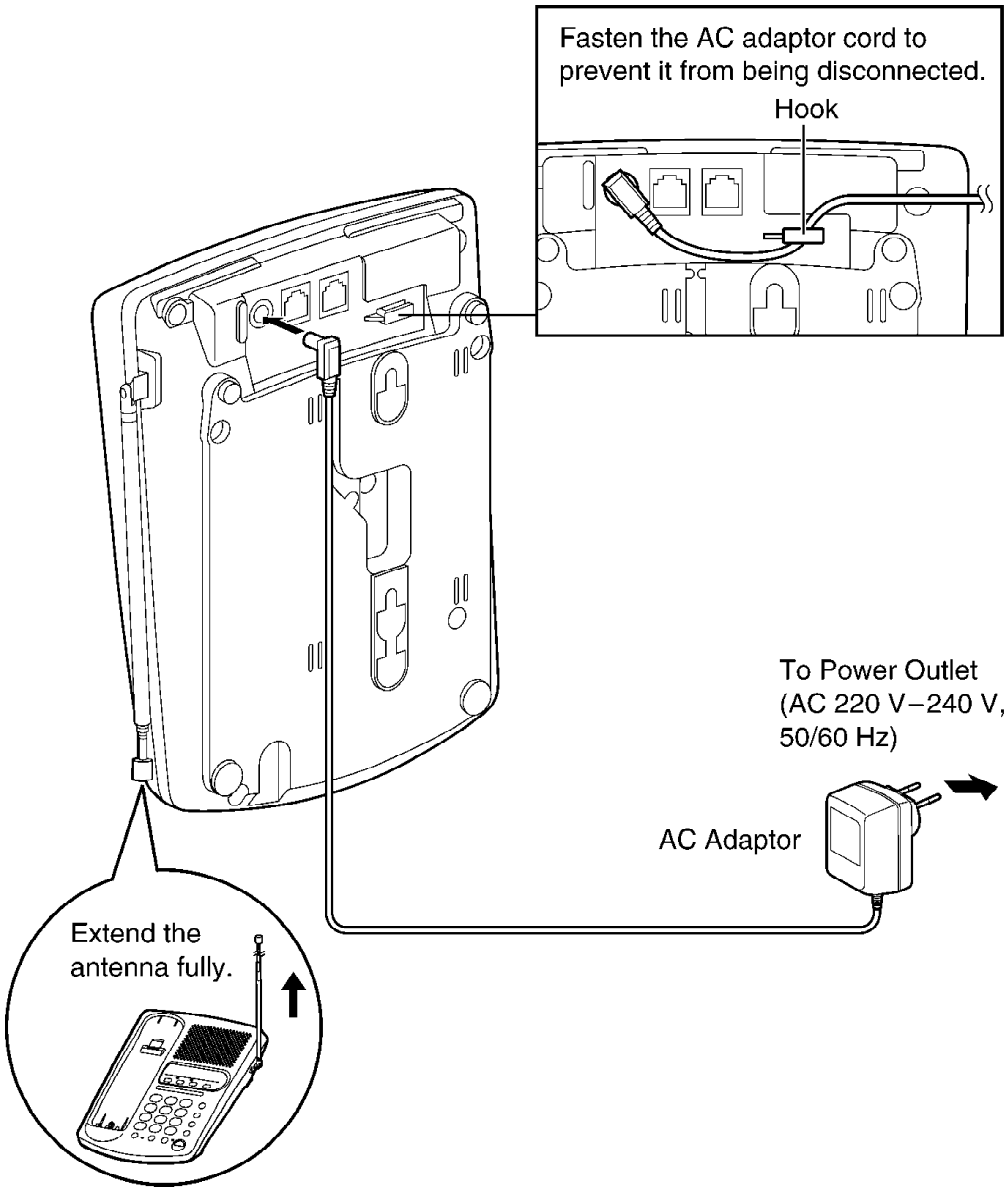

LINE 2 Button and Indicator
LINE 1 Button and Indicator
Antenna
CONF/RINGER (Conference/Ringer) Button
Handset Hook
TONE Button
HOLD Button
AUTO/PROGRAM Button
PAUSE Button
FLASH Button
REDIAL Button
Charge Contacts
SP-PHONE (Speakerphone) Button and Indicator
LOCATOR/INTERCOM Button
VOLUME ∨, ∧ Buttons
MIC (Microphone)
IN USE/CHARGE Indicator

2.2. Handset



3. CONNECTIONS

3.1. Connecting the AC Adaptor

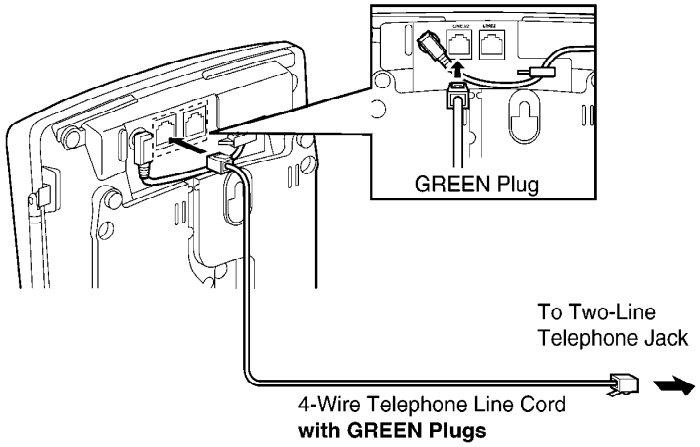

Fasten the AC adaptor cord to prevent it from being disconnected.
Hook
To Power Outlet (AC 220 V–240 V, 50/60 Hz)
AC Adaptor
Extend the antenna fully.

- USE ONLY WITH Panasonic AC ADAPTOR PQLV14BXZ.
- The AC adaptor must remain connected at all times. (It is normal for the adaptor to feel warm during use.)
- When more than one unit is used, the units may interfere with each other. To prevent or reduce interference, please leave ample space between the base units.

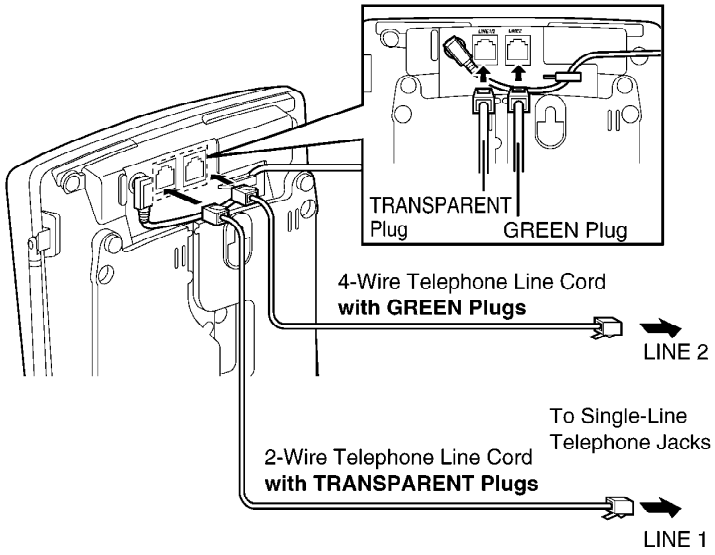
3.2. Connecting the Telephone Line Cord

Connect the telephone line cord(s) to the unit as follows.

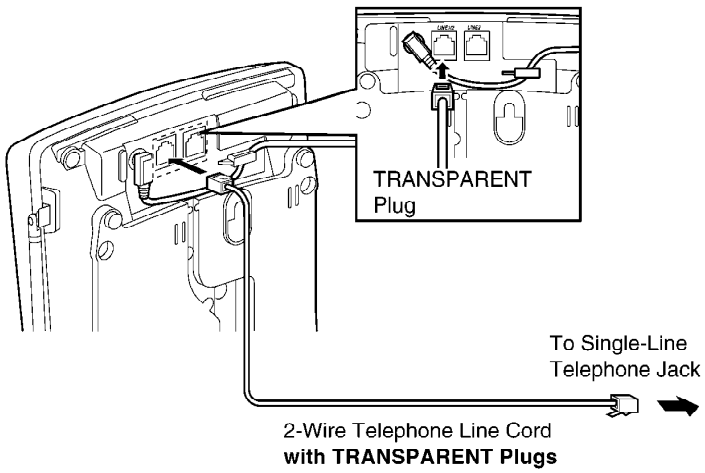
To connect a two-line telephone jack



To connect two single-line telephone jacks



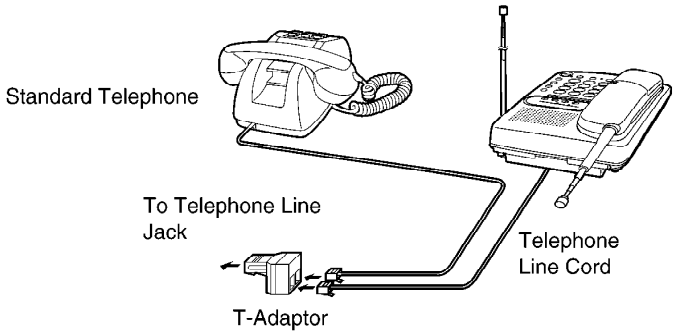
If you use the unit as a single-line telephone only



• You can only use LINE1 with this connection.

3.3. Adding Another Phone

This unit will not function during a power failure. To connect a standard telephone on the same line, use a T-adaptor.



4. OPERATION

4.1. Making Calls

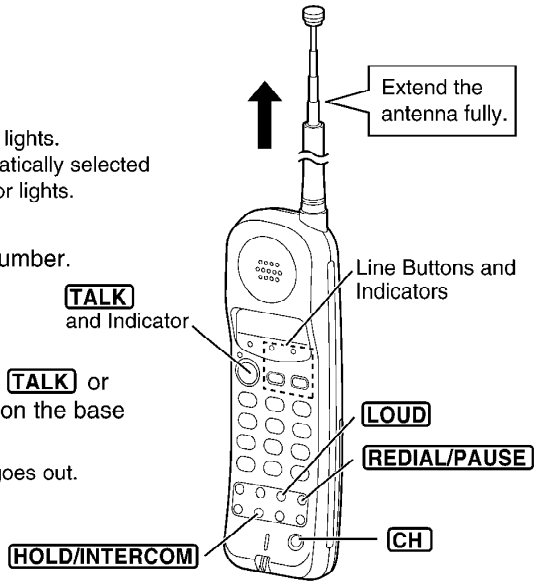
The unit will automatically select a free line, which is not being used by a parallel connected telephone, when you lift the handset to make a call.

With the Handset

1 Press TALK.
- The TALK indicator lights.
- A free line is automatically selected and the line indicator lights.

2 Dial a telephone number.

3 To hang up, press TALK or place the handset on the base unit.
- The indicator light goes out.



- In step 1, you may select a line manually by pressing the line button instead of TALK.

To redial the last number dialed on the handset

Press TALK ➡ REDIAL/PAUSE.

To select the handset receiver volume

Press LOUD while talking.
- Each time you press the button, the volume level will change from MEDIUM (preset) to HIGH to LOW.

If noise interferes with the conversation

Press CH to select a clearer channel or move closer to the base unit.

To put a call on hold

Press HOLD/INTERCOM while talking.
- The TALK indicator light goes out and the line indicator flashes.

To release the hold

Press the line button on the handset or base unit whose indicator is flashing.

- If another phone is connected on the same line, you can also release the hold by lifting its handset.

What the line indicator means

Off	The line is free.
On	You are using the line on the handset or the base unit.
Flashing twice every 2 seconds	Someone else is using the line on the handset, base unit or parallel connected telephone.
Flashing	A call is on hold.
Flashing quickly	A call is being received.

Lighted handset keypad

The handset dialing buttons will light when you press a button or lift the handset off the base unit, and flash when a call is received. The lights will go out a few seconds after pressing a button, lifting the handset or answering a call.

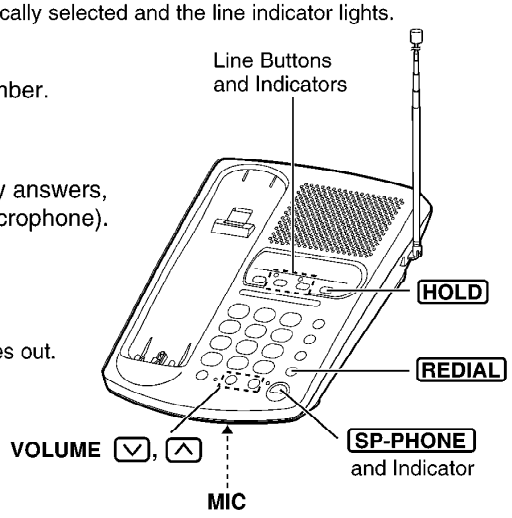
With the Base Unit (Speakerphone)

1 Press SP-PHONE.
- The SP-PHONE indicator lights.
- A free line is automatically selected and the line indicator lights.

2 Dial a telephone number.

3 When the other party answers, talk into the **MIC** (microphone).

4 To hang up, press SP-PHONE.
- The indicator light goes out.



- To switch to the handset while using the speakerphone:
  —If the handset is off the base unit, press the line button whose indicator is flashing.
  —If on the base unit, just lift up.
- During a call using the handset, the call cannot be switched to the speakerphone by pressing SP-PHONE.
- The line indicator shows the line status.
- In step 1, you may select a line manually by pressing the line button instead of SP-PHONE.

Hands-free Speakerphone
For best performance, please note the following:
- Talk alternately with the caller in a quiet room.
- If the other party has difficulty hearing you, press **VOLUME** ▽ to decrease the speaker volume.

To adjust the speaker volume (12 levels) while talking

To increase, press **VOLUME** △. To decrease, press **VOLUME** ▽.

To redial the last number dialed on the base unit

Press SP-PHONE ➡ REDIAL.

To put a call on hold

Press HOLD.
- The SP-PHONE indicator light goes out and the line indicator flashes.

To release the hold

From the base unit, press the line button whose indicator is flashing.
From the handset, press the line button whose indicator is flashing.
- If another phone is connected on the same line, you can also release the hold by lifting its handset.

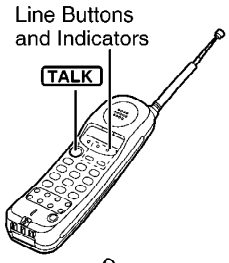
4.2. Answering Calls

When a call is being received, the unit rings and the called line indicator flashes quickly. The line is automatically selected when you answer the call.

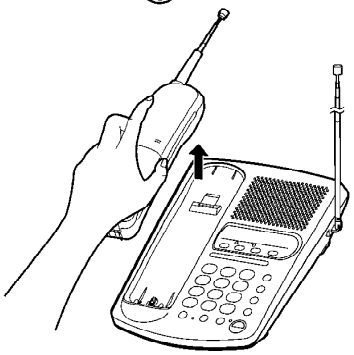
With the Handset

If the handset is off the base unit, press TALK or the line button whose indicator is flashing.

- The TALK and the called line indicators light.
- You can also answer a call by pressing any dialing button 0 to 9, ✱ or # (—**Any Key Talk**).



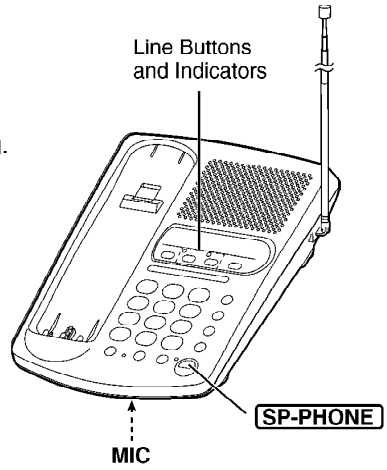
OR



If on the base unit, just lift up.

With the Base Unit

1. Press SP-PHONE or the line button whose indicator is flashing.
   - The SP-PHONE and the called line indicators light.
2. Talk into the **MIC**.
3. To hang up, press SP-PHONE.

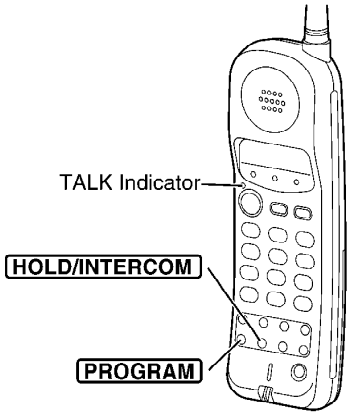


4.3. FLASH Button

Pressing [FLASH] allows you to use special features of your host PBX such as transferring an extension call or accessing special telephone services (optional) such as call waiting.

Selecting the flash time

The flash time depends on your telephone exchange or host PBX. You can select the following flash times: "90, 100, 110, 250, 300, 400, 600, 700 msec (milliseconds)", **using the handset near the base unit**. Your phone comes from the factory set to "700 msec".
The TALK and SP-PHONE indicator lights must be off before programming.



1 Press [PROGRAM].
•The TALK indicator flashes.

2 Press [HOLD/INTERCOM].

3 Press [2].

4 To select the LINE 1, press [1].
OR
To select the LINE 2, press [2].

5 Press a dialing button ([1] to [8]).
[1]: 90 msec [2]: 100 msec [3]: 110 msec [4]: 250 msec
[5]: 300 msec [6]: 400 msec [7]: 600 msec [8]: 700 msec

6 Press [PROGRAM].
•A beep sounds.

- If 3 beeps sound in steps 4 through 5, a wrong key was pressed. Press a correct key.
- If 3 beeps sound in step 6, the handset is too far from the base unit. Move closer to the base unit or place the handset on the base unit. Start again from step 1.
- To cancel during programming, press [PROGRAM]. Start again from step 1.
- If you are connected via a PBX, a longer flash time may be necessary to use PBX functions (transferring a call etc.). Consult your PBX installer for the correct setting.

5. DISASSEMBLY INSTRUCUTIONS

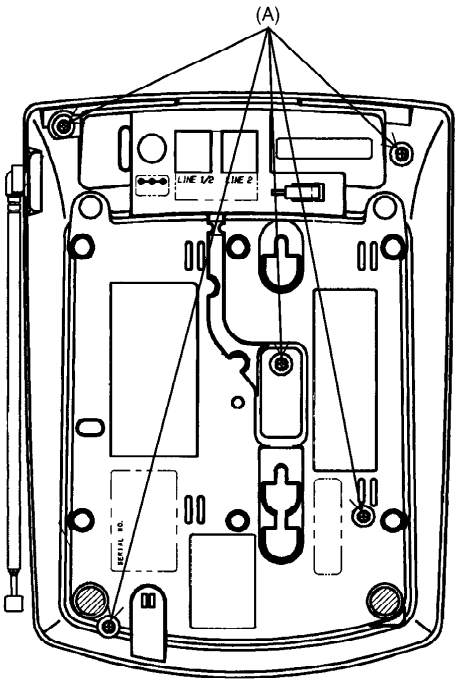


Fig. 1

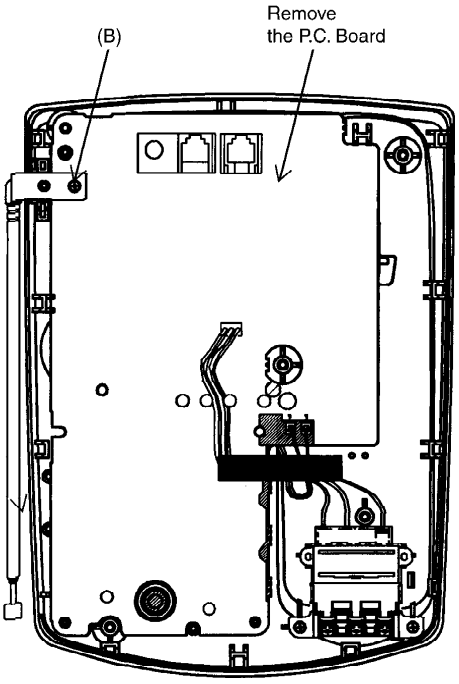


Fig. 2

Shown in Fig.	To remove.	Remove.
1	Lower Cabinet	Screws (3 × 14).....(A) × 5
2	Antenna	Screw (3 × 14).....(B) × 1

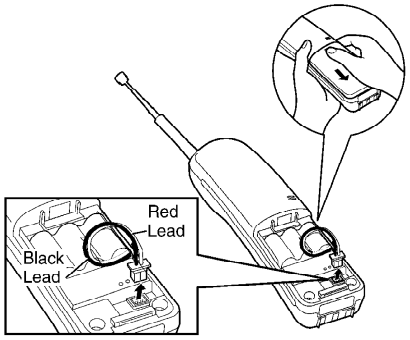


Fig. 3

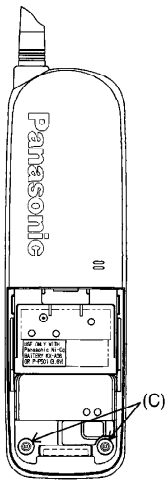


Fig. 4

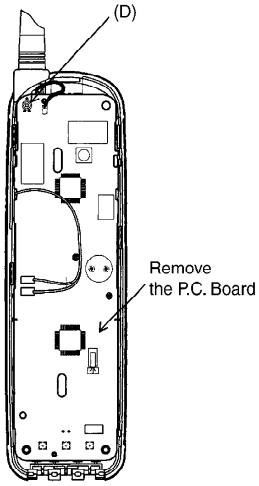


Fig. 6

Note: When opening the upper cabinet,
be careful of the speaker lead wire.

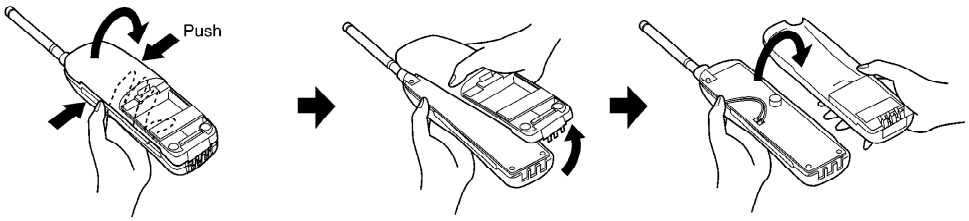


Fig. 5

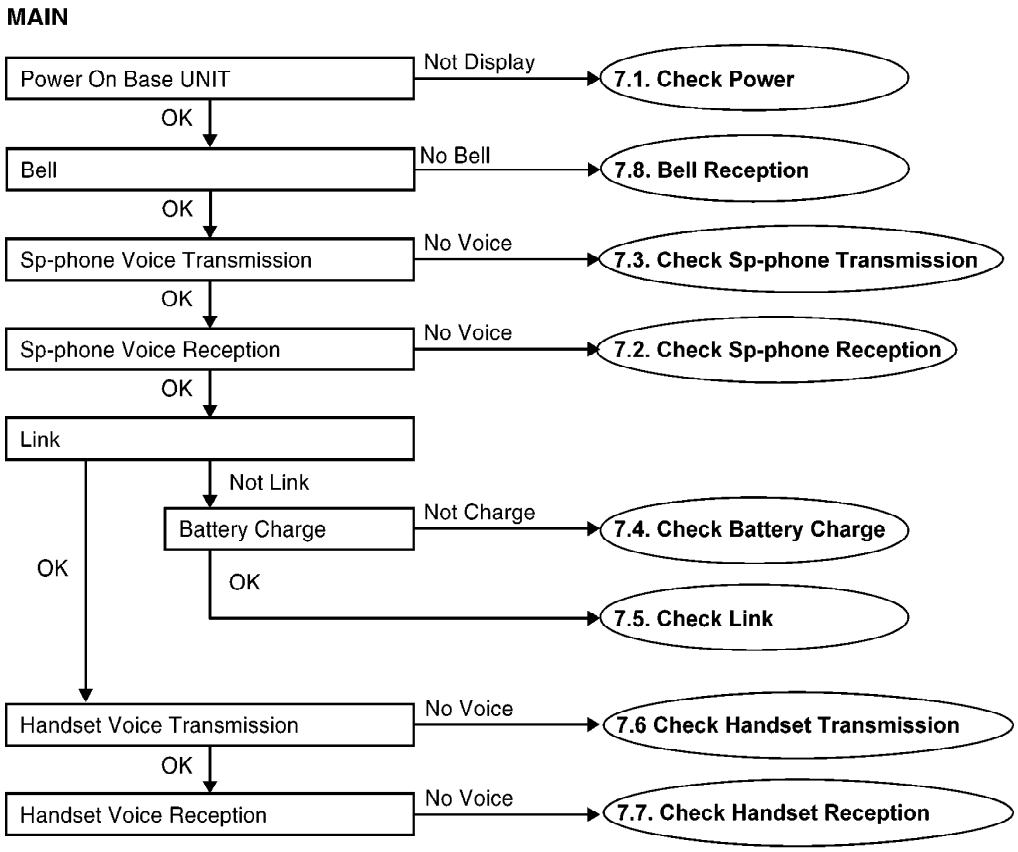
Shown in Fig.	To remove.	Remove.
3	Rear Cabinet	Battery cover
4		Screws (2.6 × 14).....(C) × 2
5	Antenna	Screw (2.6 × 14).....(D) × 1

6. TROUBLESHOOTING LIST

Symptom	Refer to	Uni
The base unit does not respond to a call from handset.	ADJUSTMENTS (BASE UNIT)	Bas
The base unit does not transmit or the transmit frequency is off.		
The transmit frequency is off.		
The transmit power output is low, and the operating distance between base unit and handset is less than normal.		
The reception sensitivity of base unit is low with noise.		
The transmit level is large or small.		
The reception level is large or small.		
The unit does not link.		
The charge indicator does not light.	Check Power	
The IN USE/Charge indicator does not flash.		
The movement of Battery Low indicator is wrong.	ADJUSTMENTS (HANDSET)	Han
The handset does not respond to a call from base unit. The handset does not transmit or the transmit frequency is off.		
The transmit frequency is off.		
The transmit power output is low, and the operating distance between base unit and handset is less than normal.		
The reception sensitivity of handset is low with noise.		
Does not link between base unit and handset.		
The reception level is large or small.		
The transmit level is large or small.		

Cross Reference:
ADJUSTMENTS (BASE UNIT) ().
ADJUSTMENTS (HANDSET) ().
Check Power ().

7. TROUBLESHOOTING GUIDE (BASE UNIT)

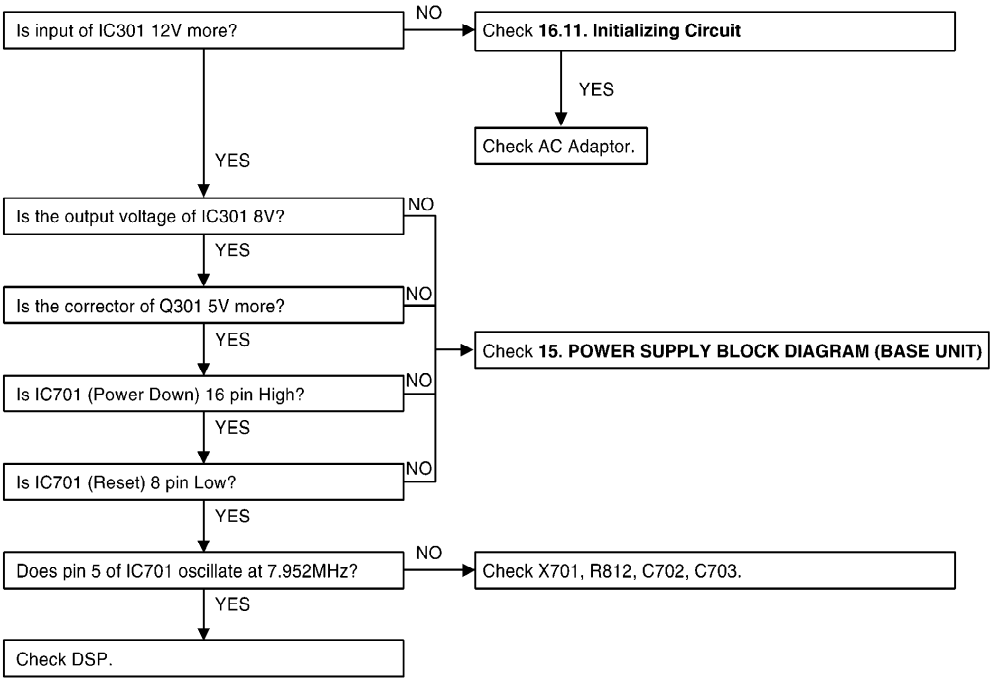


Cross Reference:
Check Power ().
Bell Reception ().
Check Sp-phone Transmission ().
Check Sp-phone Reception ().
Check Battery Charge ().
Check Link ().
Check Handset Transmission ().
Check Handset Reception ().

7.1. Check Power

BASE UNIT

Is the AC Adaptor inserted into 220V (or 230V) outlet?
(AC Adaptor PQLV14BXZ)

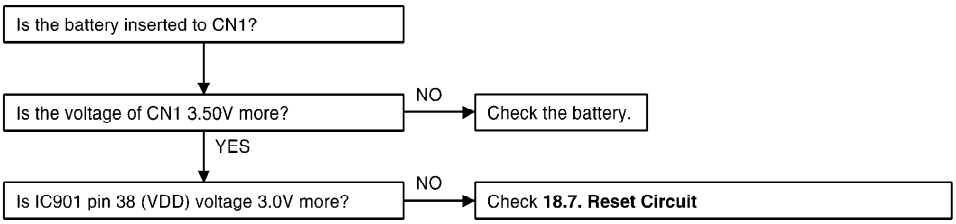


Cross Reference:

Initializing Circuit ().

POWER SUPPLY BLOCK DIAGRAM (BASE UNIT) ().

HANDSET

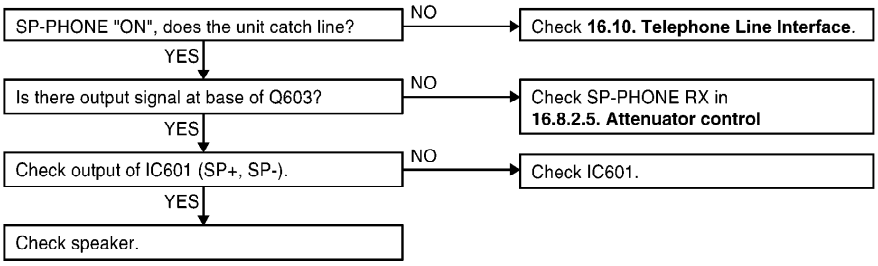


Cross Reference:

Reset Circuit ().

7.2. Check Sp-phone Reception

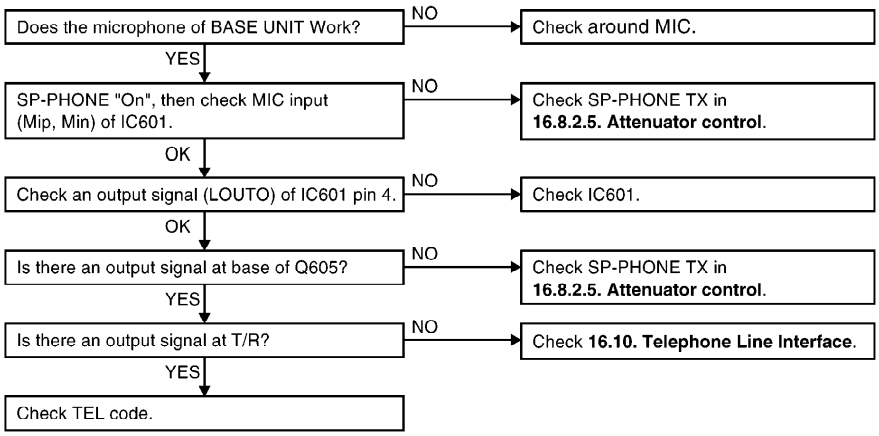
BASE UNIT



Cross Reference:
Telephone Line Interface ().
Attenuator control ().

7.3. Check Sp-phone Transmission

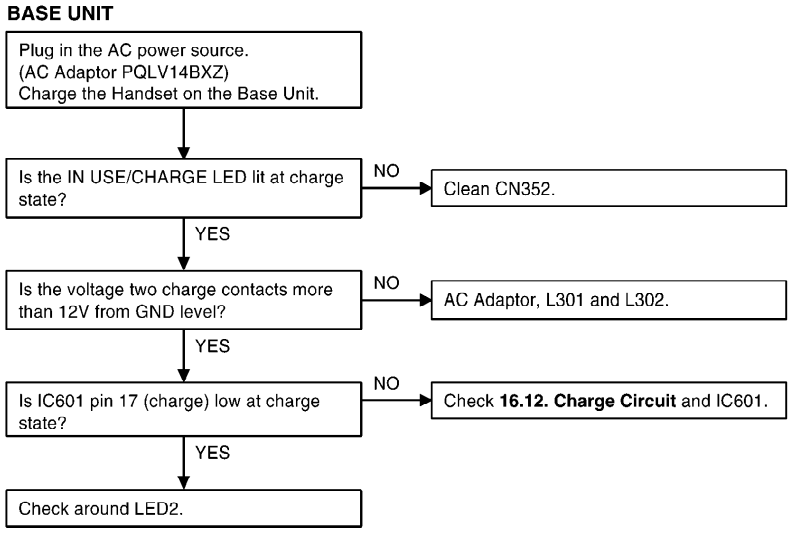
BASE UNIT



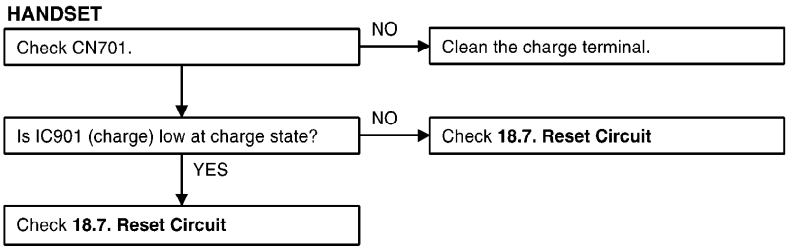
Cross Reference:
Telephone Line Interface ().
Attenuator control ().

7.4. Check Battery Charge

BASE UNIT

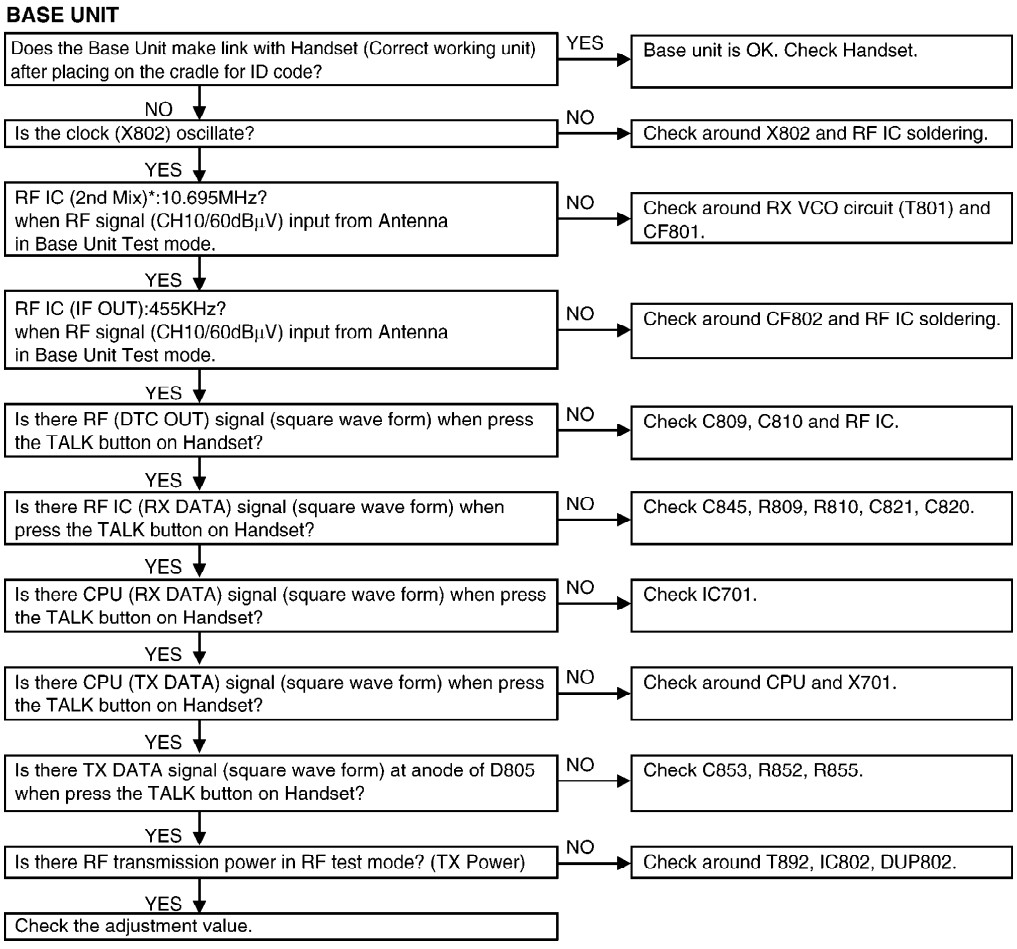

Plug in the AC power source. (AC Adaptor PQLV14BXZ) Charge the Handset on the Base Unit.
Is the IN USE/CHARGE LED lit at charge state?
NO
Clean CN352.
YES
Is the voltage two charge contacts more than 12V from GND level?
NO
AC Adaptor, L301 and L302.
YES
Is IC601 pin 17 (charge) low at charge state?
NO
Check 16.12. Charge Circuit and IC601.
YES
Check around LED2.

Cross Reference:
Charge Circuit ().

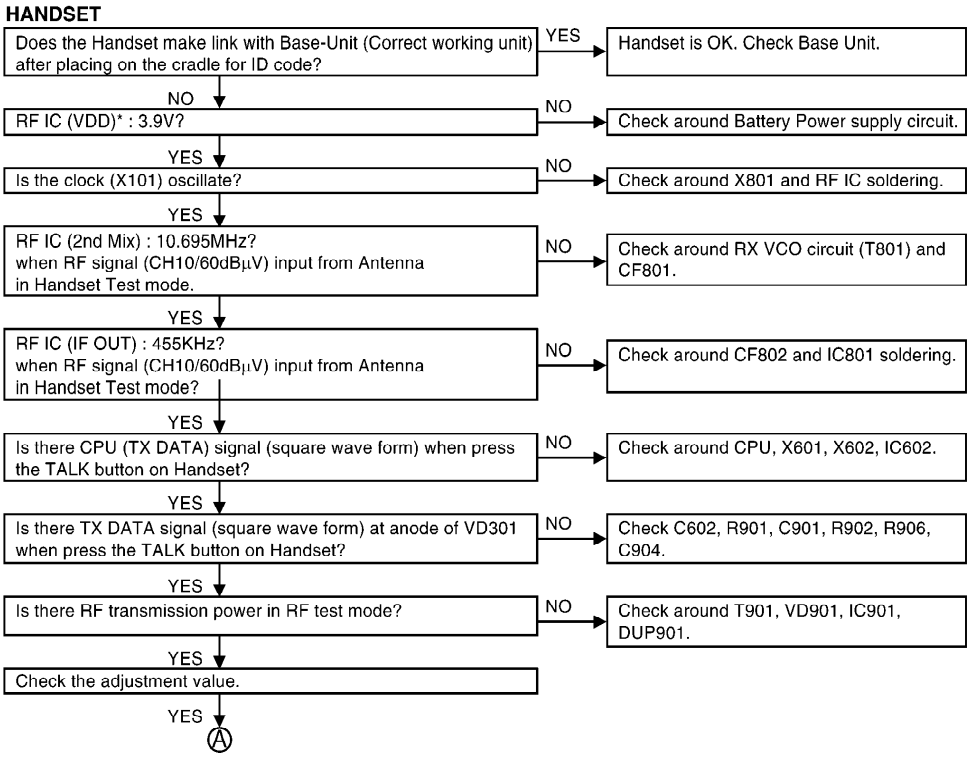


Cross Reference:
Reset Circuit ().

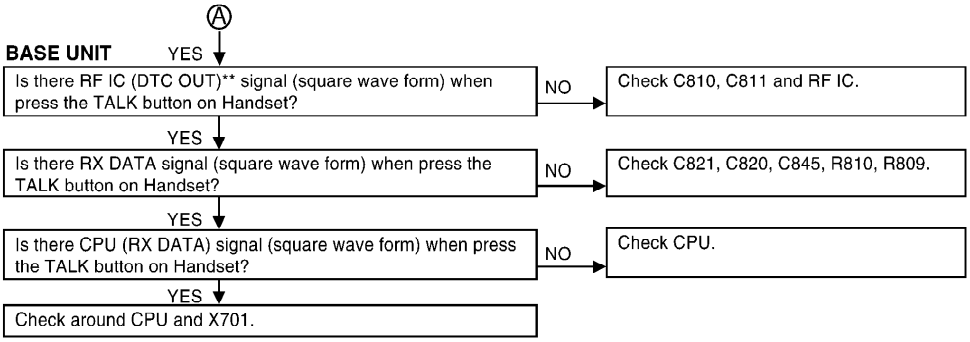
7.5. Check Link


BASE UNIT
Does the Base Unit make link with Handset (Correct working unit) after placing on the cradle for ID code?
YES
Base unit is OK. Check Handset.
NO
Is the clock (X802) oscillate?
NO
Check around X802 and RF IC soldering.
YES
RF IC (2nd Mix)*:10.695MHz? when RF signal (CH10/60dBμV) input from Antenna in Base Unit Test mode.
NO
Check around RX VCO circuit (T801) and CF801.
YES
RF IC (IF OUT):455KHz? when RF signal (CH10/60dBμV) input from Antenna in Base Unit Test mode.
NO
Check around CF802 and RF IC soldering.
YES
Is there RF (DTC OUT) signal (square wave form) when press the TALK button on Handset?
NO
Check C809, C810 and RF IC.
YES
Is there RF IC (RX DATA) signal (square wave form) when press the TALK button on Handset?
NO
Check C845, R809, R810, C821, C820.
YES
Is there CPU (RX DATA) signal (square wave form) when press the TALK button on Handset?
NO
Check IC701.
YES
Is there CPU (TX DATA) signal (square wave form) when press the TALK button on Handset?
NO
Check around CPU and X701.
YES
Is there TX DATA signal (square wave form) at anode of D805 when press the TALK button on Handset?
NO
Check C853, R852, R855.
YES
Is there RF transmission power in RF test mode? (TX Power)
NO
Check around T892, IC802, DUP802.
YES
Check the adjustment value.

NOTE:
RF IC is IC801
CPU is IC701
***: Refer to CIRCUIT BOARD (BASE UNIT) ().**

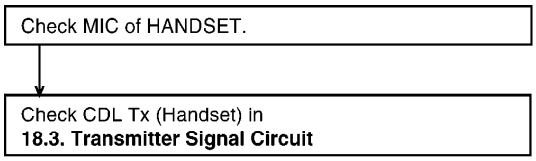

HANDSET
Does the Handset make link with Base-Unit (Correct working unit) after placing on the cradle for ID code?
YES
Handset is OK. Check Base Unit.
NO
RF IC (VDD)* : 3.9V?
NO
Check around Battery Power supply circuit.
YES
Is the clock (X101) oscillate?
NO
Check around X801 and RF IC soldering.
YES
RF IC (2nd Mix) : 10.695MHz? when RF signal (CH10/60dBμV) input from Antenna in Handset Test mode.
NO
Check around RX VCO circuit (T801) and CF801.
YES
RF IC (IF OUT) : 455KHz? when RF signal (CH10/60dBμV) input from Antenna in Handset Test mode?
NO
Check around CF802 and IC801 soldering.
YES
Is there CPU (TX DATA) signal (square wave form) when press the TALK button on Handset?
NO
Check around CPU, X601, X602, IC602.
YES
Is there TX DATA signal (square wave form) at anode of VD301 when press the TALK button on Handset?
NO
Check C602, R901, C901, R902, R906, C904.
YES
Is there RF transmission power in RF test mode?
NO
Check around T901, VD901, IC901, DUP901.
YES
Check the adjustment value.
YES
Ⓐ

NOTE (HANDSET):
RF IC is IC101
CPU is IC901
***: Refer to CIRCUIT BOARD (HANDSET) ().**


Ⓐ
BASE UNIT
YES
Is there RF IC (DTC OUT)** signal (square wave form) when press the TALK button on Handset?
NO
Check C810, C811 and RF IC.
YES
Is there RX DATA signal (square wave form) when press the TALK button on Handset?
NO
Check C821, C820, C845, R810, R809.
YES
Is there CPU (RX DATA) signal (square wave form) when press the TALK button on Handset?
NO
Check CPU.
YES
Check around CPU and X701.

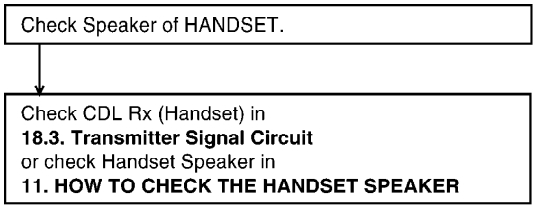
NOTE (BASE UNIT):
RF IC is IC801
CPU is IC701
****: Refer to CIRCUIT BOARD (BASE UNIT) ().**

7.6. Check Handset Transmission



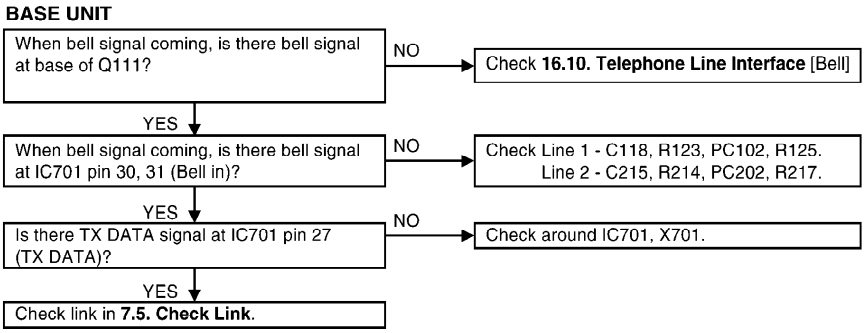
Cross Reference:
Transmitter Signal Circuit ().

7.7. Check Handset Reception

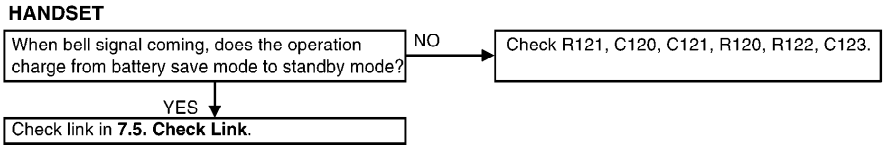

Check Speaker of HANDSET.
Check CDL Rx (Handset) in
18.3. Transmitter Signal Circuit
or check Handset Speaker in
11. HOW TO CHECK THE HANDSET SPEAKER

Cross Reference:
HOW TO CHECK THE HANDSET SPEAKER ().
Transmitter Signal Circuit ().

7.8. Bell Reception


BASE UNIT
When bell signal coming, is there bell signal at base of Q111?
NO
Check 16.10. Telephone Line Interface [Bell]
YES
When bell signal coming, is there bell signal at IC701 pin 30, 31 (Bell in)?
NO
Check Line 1 - C118, R123, PC102, R125.
Line 2 - C215, R214, PC202, R217.
YES
Is there TX DATA signal at IC701 pin 27 (TX DATA)?
NO
Check around IC701, X701.
YES
Check link in 7.5. Check Link.

Cross Reference:
Telephone Line Interface ().
Check Link ().


HANDSET
When bell signal coming, does the operation charge from battery save mode to standby mode?
NO
Check R121, C120, C121, R120, R122, C123.
YES
Check link in 7.5. Check Link.

Cross Reference:
Check Link ().

8. ADJUSTMENTS (BASE UNIT)

If your unit have below symptoms, adjust each item using remedy column from the table.

Symptom	Remedy
The base unit dose not respond to a call from handset.	Make adjustments in item (A)
The base unit dose not transmit or the transmit frequency is off.	Make adjustments in item (B)
The transmit frequency is off.	Make comfirmation in item (C)
The transmit power output is low, and the operating distance between base unit and handset is less than normal.	Make adjustments in item (D)
The reception sensitivity of base unit is low with noise.	Make adjustments in item (E)
The transmit level is large or small.	Make adjustments in item (F)
The reception level is large or small.	Make adjustments in item (G)
The unit does not link.	Make comfirmation in item (H)

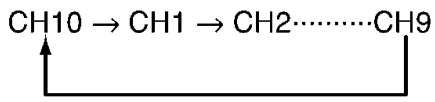
How to set the test mode.
CH10 Test Mode

1. "TEST ST2" ON

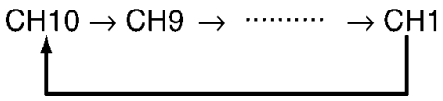
2. SUPPLY DC Voltage.

3. Press "INT or ST4" key 4 times.
   Unit becomes CH10 Talk.

4. Press CH-VOLUME button.



5. Press CH-VOLUME button.



While pressing "S2", supply DC voltage to base unit by S3.
Base unit is set to test mode then press "INT" key 4 tmies.
This mode is conf mode. Conf mode is L1 and L2 on.

When replacing these parts, adjust as shown in table below table.

	Adjustment items	Test Mode	Adjustment Point	Procedure	Check or Replace Parts
(A)	RX VCO Adjustment	Test Mode 10ch	T801	1. Set S3 to RX PDSW ON. 2. Adjust T801 so that the reading of the Digital Voltmeter is 2.3 V ± 0.1 V.	IC801, T801, C841
(B)	TX VCO Adjustment	Test Mode 10ch	T851	1. Set S3 to TX PDSW ON. 2. Adjust T851 so that the reading of the Digital Voltmeter is 2.3 V ± 0.1 V.	IC802, D805, T851
(C)	TX Frequency Confirmation	Test Mode 10ch	———	1. Set S4 to ON. 2. Comfirm so that the reading of the frequency counter is 44.200 MHz ± 0.7 kHz.	DUP802, X801, C835, C836
(D)	TX Power Confirmation	Test Mode 10ch	T892	1. Set S8 to ON. 2. Confirm that TX Power is more than 1000mV.	R864, IC802, Q855
(E)	RX Sensitivity Confirmation (2nd IF output)	Test Mode 10ch		1. Set S6, S7 to ON. 2. Apply a 60dBμVemf output from S.S.G.(modulation frequency 1 kHz, dev. 0 kHz). 3. Confirm that the reading of the RF VTVM ismaximum output (more than 30 mV).	DUP801, CF801, CF802
(F)	Line Output Level Adjustment	Test Mode 10ch	VR801 VR101	1. Set S6, S5 to ON. Insert TEL cord to L2. 2. Insert TEL cord to L2. 3. Apply a 40dBμVemf output from S.S.G (modulation frequency 1kHz. dev. 3kHz). Adjust VR801 to get -5±1.0 dBm. 4. Adjust L1 next at VR101 to get -5±1.0 dBm.	IC801(F), Q105, VR402
(G)	Line Input Modulation Adjustment	Test Mode 10ch	VR802 VR102	1. Set S6, S9 and S10 to ON. Insert TEL cord to L2. 2. Input via loop simulator 1.0 kHz, -25 dBm (measured at T-R) signal 3. Apply a 40 dBμVemf output from S.S.G. (modulation frequency 1 kHz, dev. 0 kHz). 4. Adjust VR802 so that the reading of the FM Deviation Meter is 3.1 kHz±0.1 kHz. Insert TEL cord to L1. Adjust L1 next at VR102 to get 3.1±0.1 kHz.	IC801, D851
(H)	Noise Squelch Confirmation	Test Mode 10ch		1. Set S6, to ON. 2. Apply a 10dBμVemf output from S.S.G. (modulation frequency 1.0kHz, dev. 3kHz). 3. Oscilloscope shows Low. 4. Apply a 40dBμVemf output from S.S.G. (modulation frequency 1.0kHz, dev. 3kHz). 5. Oscilloscope shows High!	IC801, DUP801

The connection of adjustment equipments are as shown in CIRCUIT BOARD (BASE UNIT) ().

8.1. Adjustment Standard (Base Unit)

9. ADJUSTMENTS (HANDSET)

If your unit have below symptoms, adjust each item using remedy column from the table.

Symptom	Remedy
The movement of Battery Low Indicator is wrong.	Make confirmation in item (A)
The base unit does not respond to a call from handset.	Make adjustment in item (B)
The base unit does not transmit or the transmit frequency is off.	Make adjustment in item (C)
The transmit frequency is off.	Make confirmation in item (D)
The transmit power output is low, and the operating distancebetween base unit and handset is less than normal.	Make confirmation in item (E)
The reception sensitivity of base unit is low with noise.	Make adjustment in item (F)
Does not link between base unit and handset.	Make confirmation in item(G)
The reception level is high or low.	Make adjustment in item (H)
The transmit level is high or low.	Make adjustment in item (I)

Unit condltion:

1. Remove the antenna lead wire from P.C Board of handset.

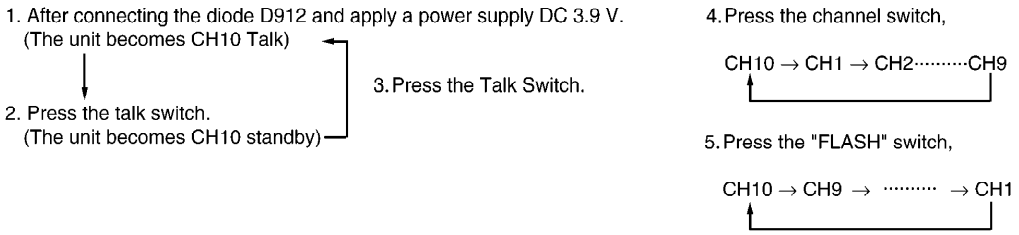
2. Power Supply: DC 3.9V

3. Volume: HIGH (When P.C. Borad of handset is in test mode, volume condition is medium.Press "LOUD" key once.)

4. Speaker Load: 150 Ω

CH	TX Frequency	RX Frequency
CH10	49.970MHz	44.200MHz

How to set the test mode.
CH10 Test Mode


1. After connecting the diode D912 and apply a power supply DC 3.9 V.
(The unit becomes CH10 Talk)
2. Press the talk switch.
(The unit becomes CH10 standby)
3. Press the Talk Switch.
4. Press the channel switch,
CH10 → CH1 → CH2·····CH9
5. Press the "FLASH" switch,
CH10 → CH9 → ····· → CH1

When replacing these parts, adjust as shown in table below.

	Adjustment items	Test Mode	Adjustment Point	Procedure	Check or Replace Parts
(A)	Battery Low Confirmation	CH10 Talk	—	1. Set S1 to ON. 2. Set the power supply voltage to DC 3.65 V, and confirm so that the reading of oscilloscope is High. 3. Set the power voltage to DC 3.45 V, and confirm so that the reading of oscilloscope is Low.	IC101
(B)	TX VCO Voltage Adjustment	CH10 Talk	T301	1. Set S2 to TX VCO side. 2. Adjust T301 so that the reading of digital voltmeter is 1.5 V ± 0.1 V (After adjusting, set S2 to OFF).	IC101, X101, T301, VD301
(C)	RX VCO Voltage Adjustment	CH10 Talk	T201	1. Set S2 to RX VCO side. 2. Adjust L5 so that the reading of digital voltmeter is 1.5 V ± 0.1 V (After adjusting, set S2 to OFF).	IC101, X101, T201
(D)	TX frequency Confirmation	CH10 Talk	—	1. Set S3 to ON. 2. Confirm that the reading of frequency counter is 49.970 MHz ± 700 Hz .	X101, IC101, C141, C142
(E)	TX Power Confirmation	CH10 Talk	—	1. Set S4 to ON (S3:OFF). 2. Output level should be over 700 mV on RF VTVM (50 Ω load).	DUP301
(F)	RX Confirmation (2nd IF Output)	CH10 Talk	—	1. Set S6, S7 to ON. 2. Apply a 60 dB μ Vemf output from S.S.G. (modulation frequency 1kHz, dev. 3kHz) 3. Comfirm 2nd IF output so that its reading of RF VTVM is more than 45mV.	DUP101, IC101, CF1, CF2
(G)	Noise Squelch Confirmation	CH10 Talk		1. Set S1, S6 on. 2. Procedure 1. + Press "1" key to set Noise Squelch Mode. 3. Apply a -2dB μ Vemf output from S.S.G. (modulation frequency 1.0kHz, dev. 3kHz). 4. Oscilloscope become High. 5. Apply a +8dB μ Vemf output from S.S.G. (modulation frequency 1.0kHz, dev. 3kHz). 6. Oscilloscope become Low.	
(H)	Speaker Output Level Adjustment	CH10 Talk	—	1. Set S5, S6 to ON. 2. Apply a 40 dB μ Vemf output from S.S.G.(modulation frequency 1kHz, dev. 3kHz). 3. Confirm that SP output level is -15 ± 2dBm. (distortion: less than 6%) (volume: MAX)	
(I)	MIC Modulation Factor Adjustment	CH10 Talk	VR201	1. Set S7, S9 to ON. 2. Apply a MIC signal (1kHz, -40 dBm at 600 Ω load). 3. Confirm that the reading of FM Deviation Meter is 2.8kHz ± 0.3kHz.	VR201
(J)	Data Moudulation Confirmation	CH10 STBY	—	1. Set S7 to ON. 2. Keep pressing the "1" button. 3. Confirm for a 4.5~6.5 kHz FM Deviation Meter reading.	

The connections of adjustment equipments are as shown in CIRCUIT BOARD (HANDSET) ().

9.1. Adjustment Standard (Handset)

10. RF SPECIFICATION

10.1. BASE UNIT

Item	Value	Refer to -.	R
TX Frequency	44.200 MHz ± 700Hz	ADJUSTMENTS (BASE UNIT)	at CH
TX Power	More than 1000mV (CH10)	ADJUSTMENTS (BASE UNIT)	at CH
Line Modulation factor	3.0 kHz - 3.3 kHz	—	
Line Modulation Distortion	Less than 7%	—	
Line Modulation factor (Max.)	4.5 kHz - 7.5 kHz	—	
Data Modulation factor	2 kHz - 6 kHz	—	

Cross Reference :
ADJUSTMENTS (BASE UNIT) ()

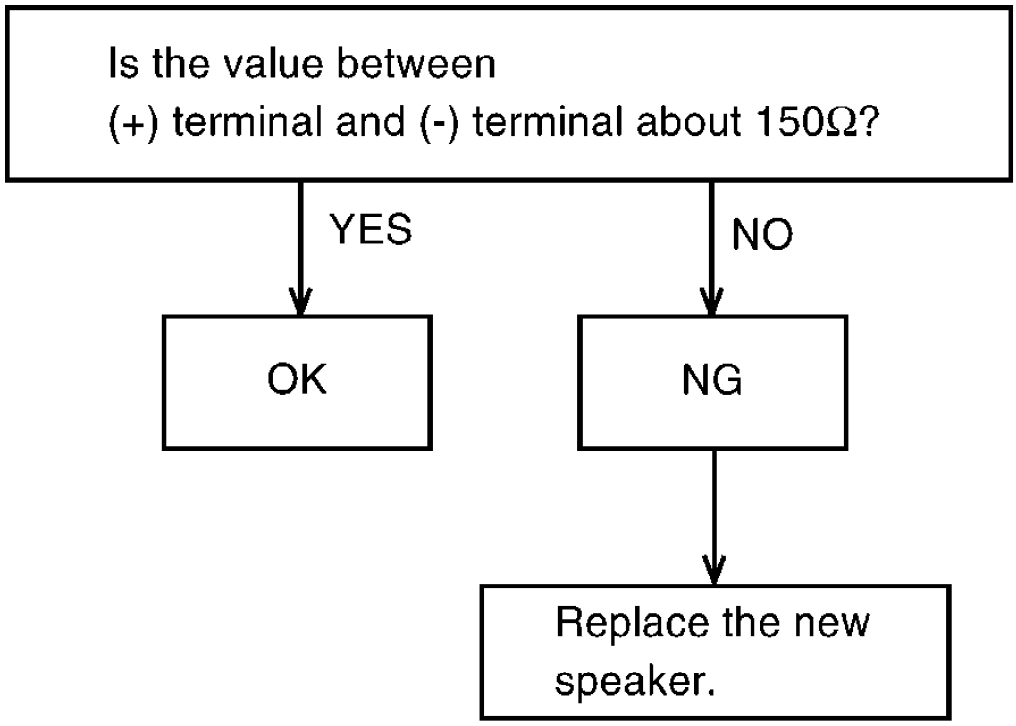
10.2. HANDSET

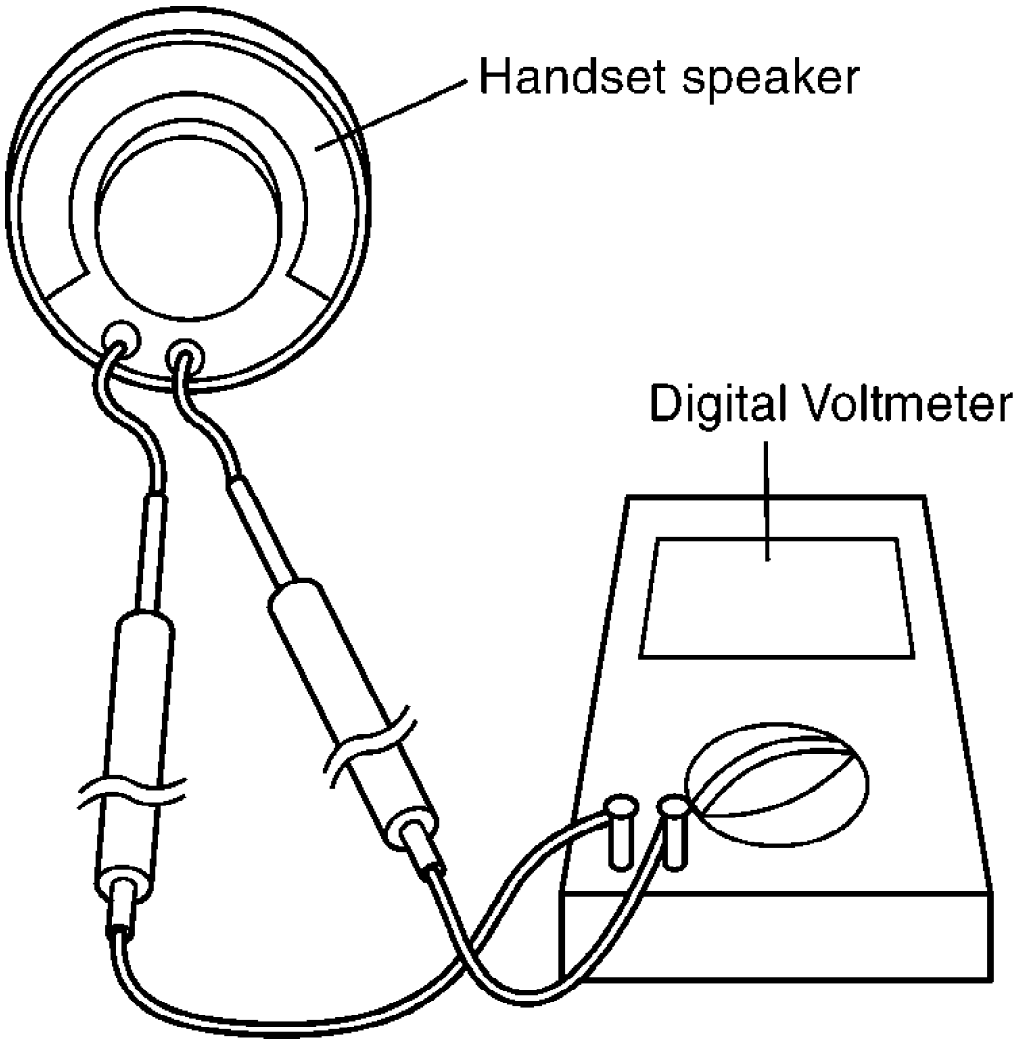
Item	Value	Refer to -.	Remarks
Practical Sensitivity	Less than 9 dB μ V	—	at CH10
TX Frequency	49.970 MHz ± 700Hz	ADJUSTMENTS (HANDSET)	at CH10
TX Power	Over 700 mV	ADJUSTMENTS (HANDSET)	at CH10 (Antenna soldering p Load)
Data Modulation factor	4.5 kHz/dev - 6.5 kHz/ dev	ADJUSTMENTS (HANDSET)	at CH10
MIC Modulation factor	2.5 kHz/dev - 3.1 kHz/ dev	ADJUSTMENTS (HANDSET)	at CH10 (MIC terminal -40dBm

Cross Reference :
ADJUSTMENTS (HANDSET) ()

11. HOW TO CHECK THE HANDSET SPEAKER

1. Prepare the digital voltmeter, and set the selector knob to ohm meter.
2. Put the probes at the speaker terminals as shown below.


Is the value between
(+) terminal and (-) terminal about 150Ω?
YES
NO
OK
NG
Replace the new
speaker.

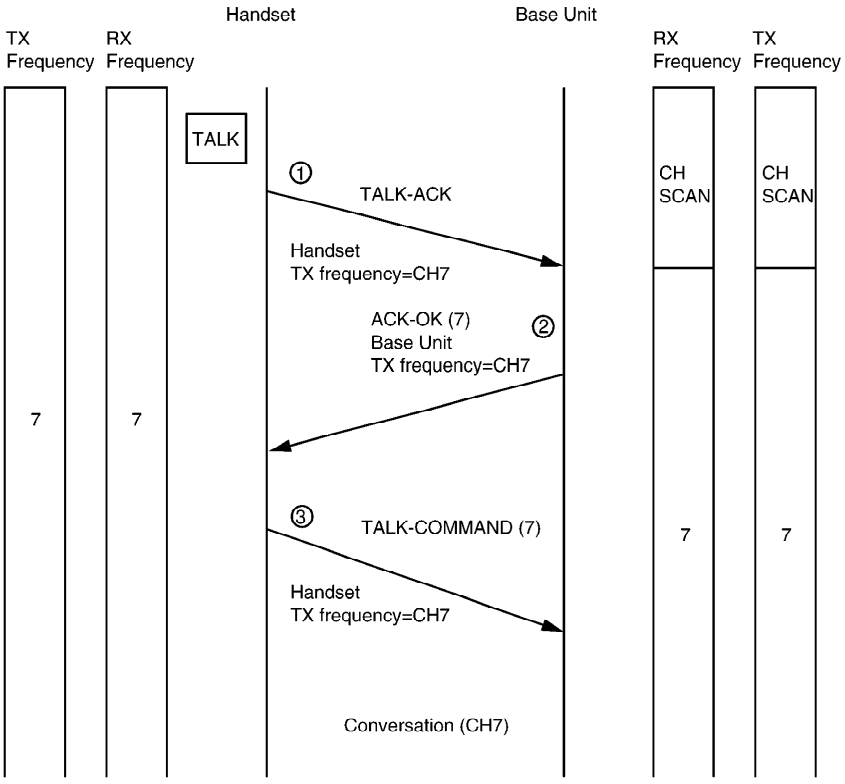

Handset speaker
Digital Voltmeter

12. FREQUENCY TABLE (MHz)

	BASE UNIT		HANDSET	
	Transmit Frequency	Receive Frequency	Transmit Frequency	Receive Frequency
1	43.720	49.670	49.670	43.720
2	43.740	49.845	49.845	43.740
3	43.820	49.860	49.860	43.820
4	43.840	49.770	49.770	43.840
5	43.920	49.875	49.875	43.920
6	43.960	49.830	49.830	43.960
7	44.120	49.890	49.890	44.120
8	44.160	49.930	49.930	44.160
9	44.180	49.990	49.990	44.180
10	44.200	49.970	49.970	44.200

13. EXPLANATION OF CPU DATA COMMUNICATION

13.1. Outgoing Call Mode (STANDBY->TALK):



① When the user pushes the TALK button, the handset sends a TALK_ACK request to the base unit.

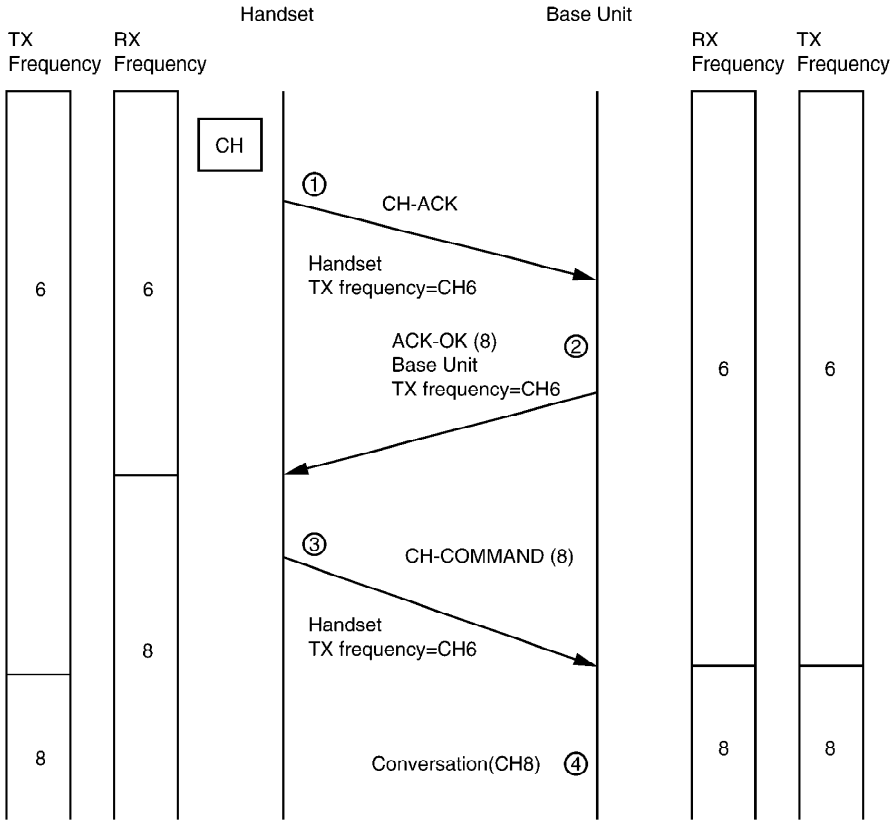
② The base unit sends an ACK-OK, which includes the number 7 (only).

③ The handset sends TALK-COMMAND, which includes the number 7.

Note: Channel 1-10

13.2. CH Change Mode:

ex): (CH6 → CH8)



① When the user pushes the CH button, the handset sends a CH-ACK request to the base unit. (on the handset's conversation frequency)

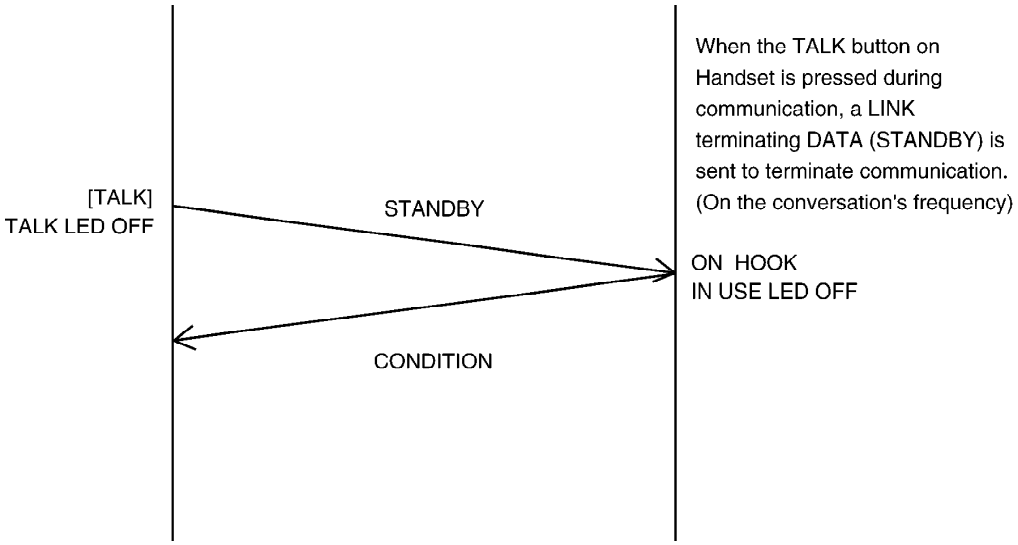
② The base unit sends a ACK-OK.
This ACK-OK includes the number of the vacant channels.

③ The handset sends a CH-COMMAND.
This CH-COMMAND includes the number of the vacant channel.
After sending the CH-COMMAND, handset changes to a vacant channel.

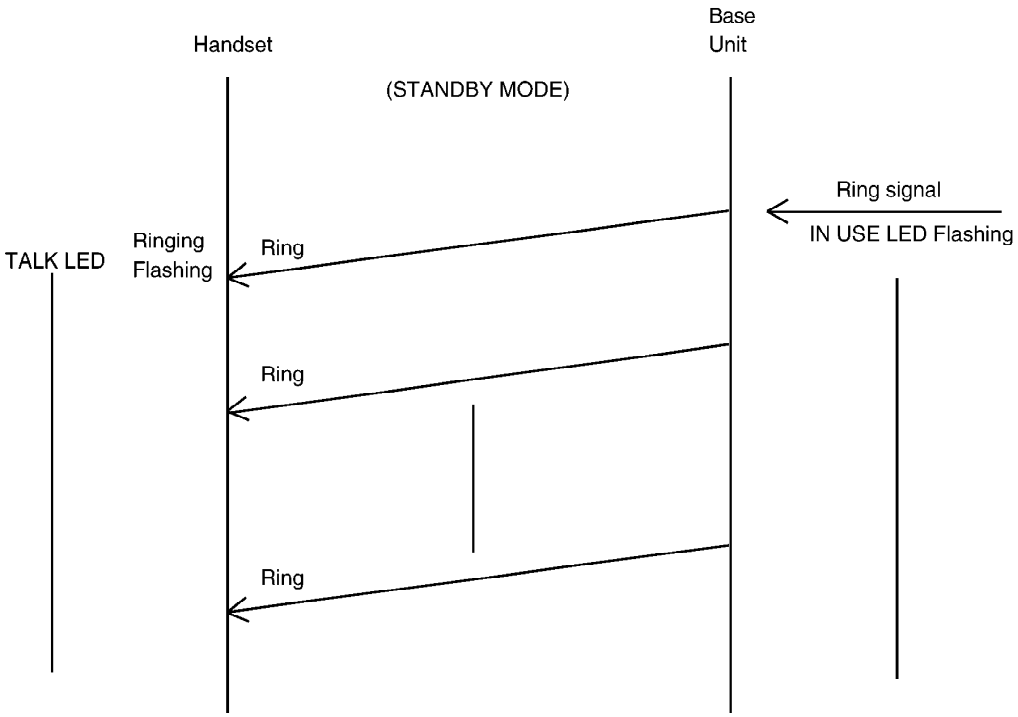
④ The base unit changes to the vacant channel.
The a conversation can be accessed.

Note: Channels 1-10

13.3. To terminate Communication


When the TALK button on Handset is pressed during communication, a LINK terminating DATA (STANDBY) is sent to terminate communication. (On the conversation's frequency)
[TALK]
TALK LED OFF
STANDBY
ON HOOK
IN USE LED OFF
CONDITION

13.4. Ringing



After detecting the Ring signal from circuit, Base Unit sends a ring signal DATA (Ring) on the base's (a) TX frequency, then the Handset starts ringing.

Note: (a) is channels 1-10 (old)...cthese channels are paired.

13.5. Ports for transmitting and receiving of data

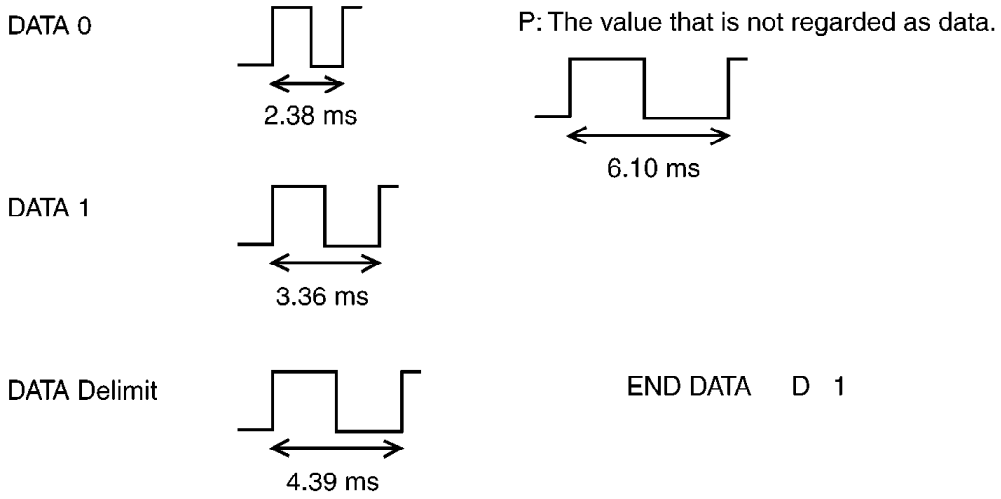
Handset : transmitting ... 44 Pin receiving ... 25 Pin
Base Unit : transmitting ... 10 Pin receiving ... 7 Pin

13.6. Waveform of DATA used for cordless transmission and reception

The DATA which is transmitted from the Handset to the Base Unit is combination of DATA 0, DATA 1, DATA Delimt, Pre data and
End data of P1.
The DATA which is transmitted from the Base Unit to the Handset is combination of DATA 0, DATA 1, DATA Delimt, Pre data and
End data of P2.

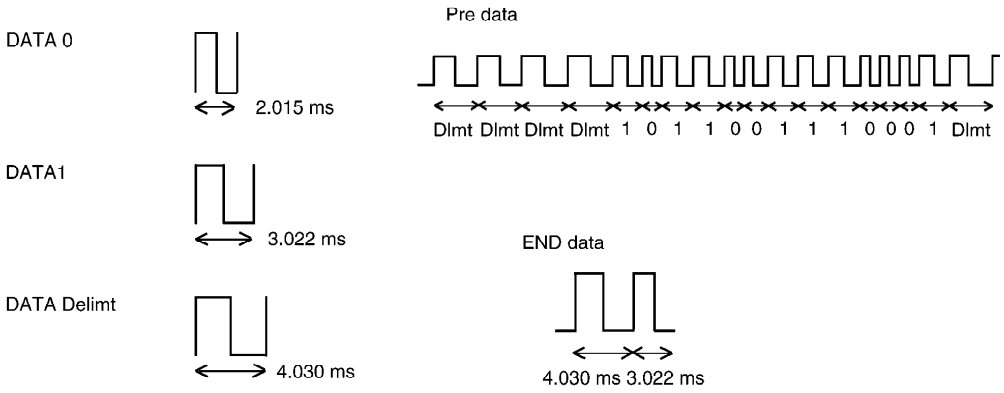
13.6.1. HANDSET

Transmitting DATA Format

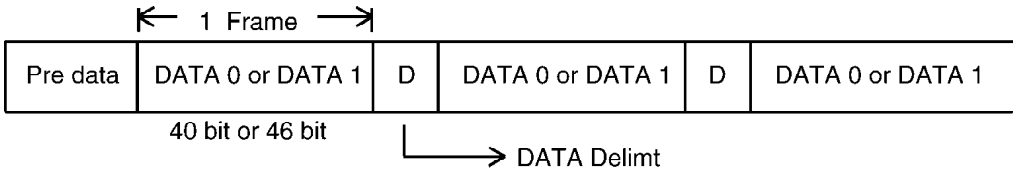

DATA 0
2.38 ms
P: The value that is not regarded as data.
6.10 ms
DATA 1
3.36 ms
DATA Delimit
4.39 ms
END DATA D 1
Pre DATA P D D 1 — — —
9bit Pre DATA P D D 1 0 1 1 0 1 0 0 1 D 1 — — —

13.6.2. BASE UNIT

Transmitting DATA Format

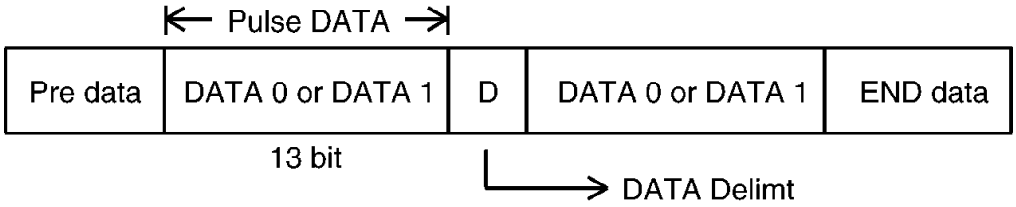


13.7. When LINKing



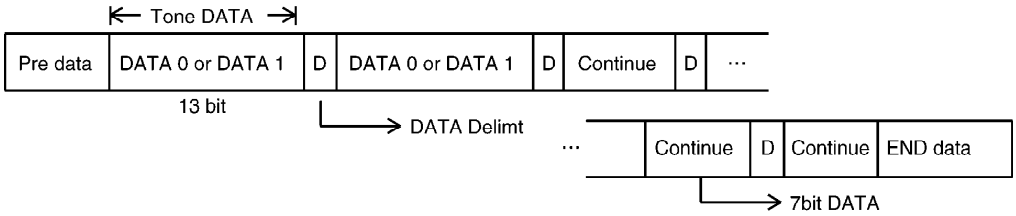
When LINKing from the Handset (when becoming STBY to TALK), DATA is transmitted in above format. The combined portion of DATA 0 and DATA 1 is transmitted in LINK requesting DATA (40 bit) format first.Then,when LINK OK(ACK-OK) DATA(46bit) is returned from the Base Unit, it is sent as LINK form DATA after changing the combination of DATA 0 and DATA 1. And the DATA Delimt is between each Frame as a stop.The contents of LINK requesting DATA and LINK form DATA are different depending on each operation.

13.8. Pulse Dial



When executing Pulse Dial,the Pulse Dial DATA is transmitted from the Handset to the Base Unit in above format.The combination of DATA 0 and DATA 1 are changed by each Dial No. And the DATA Delimt is between each Frame as a stop. The number of Frame is 2.

13.9. Tone Dial

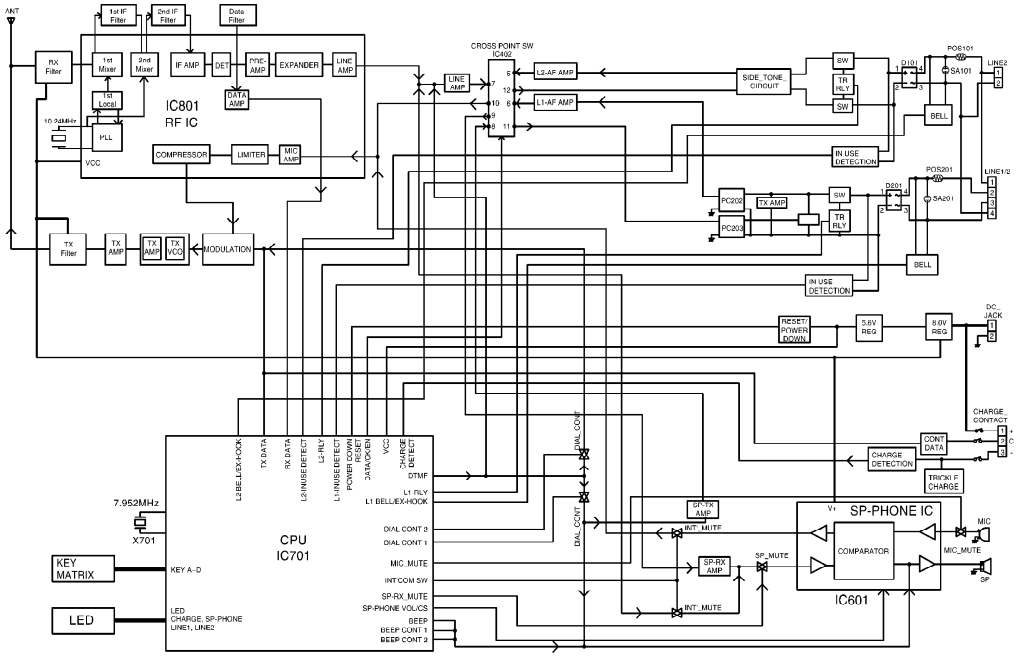


When executing Tone Dial, Tone Dial DATA is transmitted from the Handset to the Base Unit in above format. The DATA is changed by Dial No. as same as Pulse Dial. When Tone Dialing, DATA (Continue DATA) that the key is pressed continuously is sent to the Base Unit during the key is pressed. When depressing the key, and the END data is sent finally.

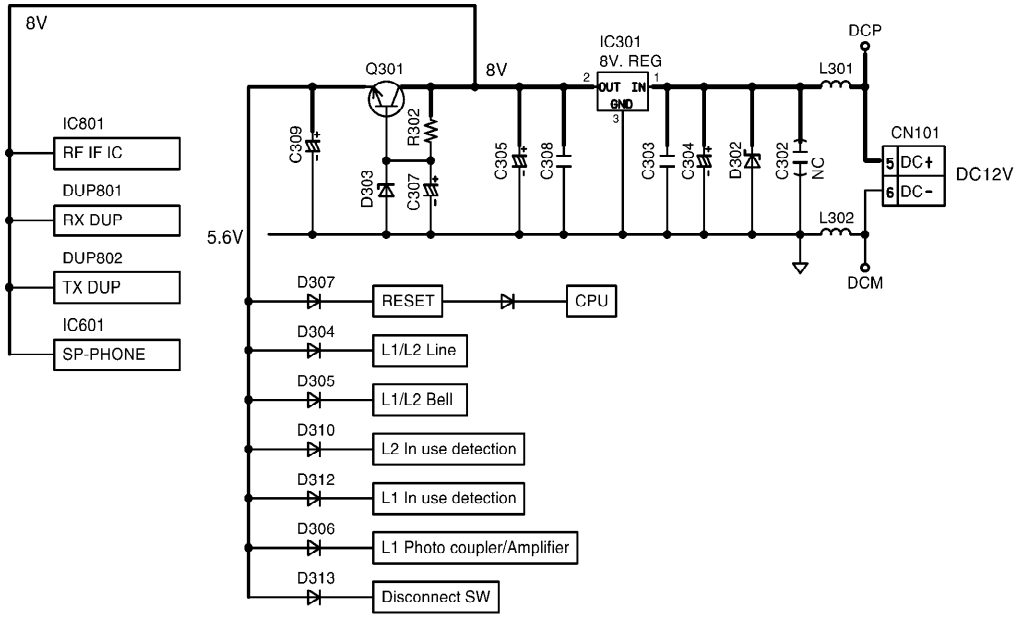
NOTE

A million kinds of the security code are available for the model KX-TC1085BXB.
Each time the handset is set on the cradle of the base unit (for charging), the CPU automatically change the security code.

14. BLOCK DIAGRAM (BASE UNIT)



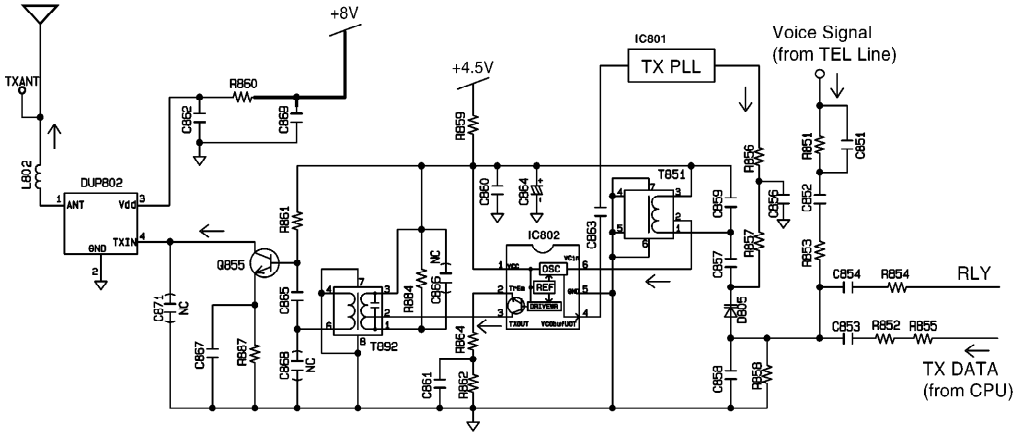
15. POWER SUPPLY BLOCK DIAGRAM (BASE UNIT)



16. CIRCUIT OPERATION (BASE UNIT)

16.1. Transmitter Circuit

The voice signal or the data signal sent to the handset is applied in the anode of the variable capacitor diode (VARICAP) D805.
VR802 is used for changing the voice signal level, thus changing the modulation level.



16.2. Transmitter Output Amp Circuit

The signal which is oscillated at TXVCO is amplified by DUP802, whose gain is adjusted by moving T892.The signal passes through the duplexer and it is radiated from the antenna.

16.3. Bell Detector Circuit

When the Bell signal is input between T/R, the signal of which waveform is shaped through C118 → R123 → PC102 (C215 → R214 → PC202)* is input to pin 63 (62)* of the CPU IC701.
When the CPU detects the Bell signal, pin 19 (20)* repeats High/Low fluctuation and then Line1 (2)* LED3 (LED4)* is flashed.
At this time, if the portable unit is charged, the data from pin 27 is sent to the handset through the control terminal and CHGC then the portable unit's ringer is on.
If the portable unit is not charged, the data signal generated by pins 27 of the CPU is sent to the portable unit through RF and then the portable unit's ringer is on.

NOTE:

( )*: In case of Line 2

16.4. Line Interface

In talk status, the L1/L2 RLY output from pin 28 (29)* of IC701 changes to low level, causing PC101 and Q101(PC201, Q201 and Q207) to turn on and resulting in a line loop. The loop current flows from D101(+) → Q101 → Q102 → R110 → D105
(D201(+) → Q201 → Q202 → R212 → D205)* in that order. A pulse signal that repeated switches between high and low level is output from pin 28 (29)* of the CPU.
This switches the line loop on and off, generating the dial pulse signal.

NOTE:

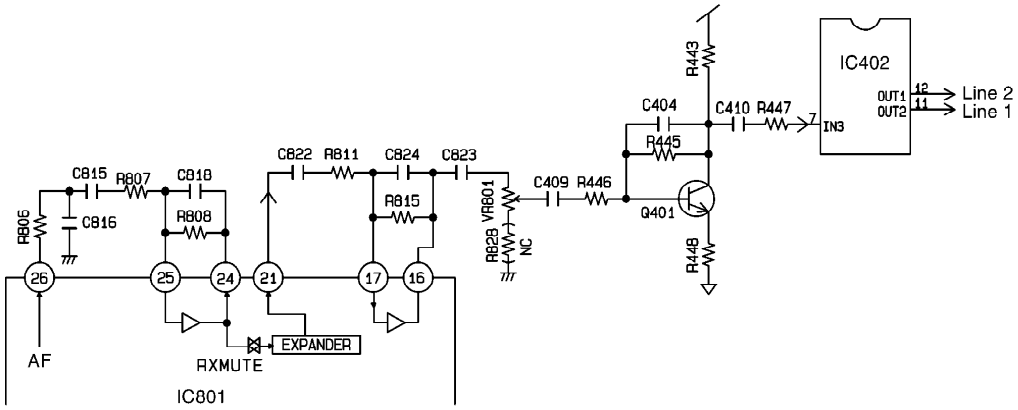
( )*: In case of Line 2

16.5. DTMF Signal

When the DTMF data from the portable unit is received, the DTMF signal is output from pin 60 of the CPU and sent to the line through.

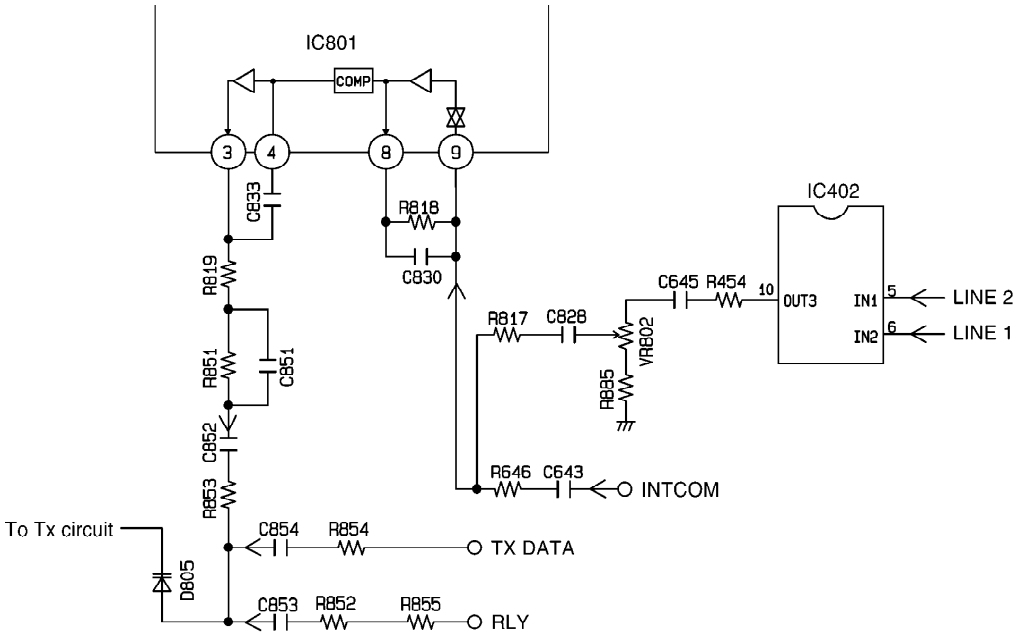
16.6. Line Sending

The AF signal from IC801 pin 26 is input to pin 24 and output from pin 21, input to pin 17 then output from pin 16. The level of the signal is adjusted at VR801. After being amplified at Q401, the signal is input to IC402 pin 7. LINE 1 outputs the signal from IC402 pin 11, while LINE 2 outputs it from IC402 pin 12. Then the signal is output to the telephone line.



16.7. Line Receiving

The signal from IC402 pin 10 is input to IC801 pin 9, then the level is adjusted at VR802. The intercom signal is sent from C643 to R646, and it is input to IC801 pin 9. Both of them are output from IC801 pin 3, modulated at D805 and output from the TX circuit. TXDATA and the RLY leaking sound are demodulated at D805. Line 1 signal is input to IC402 pin 6, while Line 2 signal is input to IC402 pin 5.



16.8. Speakerphone Circuit

16.8.1. Function:

This circuit controls the automatic switching of the transmitted and received signals, to and from the telephone line, when the unit is used in the hands-free mode.

16.8.2. Circuit operation:

The speakerphone can only provide a one-way communication path.
In other words, it can either transmit an outgoing signal or receive an incoming signal at a given time, but cannot do both simultaneously. Therefore, a switching circuit is necessary to control the flow of the outgoing and incoming signals.
This switching circuit is contained in IC601 and consists of a Voice Detector, Tx Attenuator, Rx Attenuator, Comparator and Attenuator Control. The circuit analyzes whether the Tx (transmit) or the Rx (receive) signal is louder, and then it processes the signals such that the louder signal is given precedence.
The Voice Detector provides a DC input to the Attenuator Control corresponding to the Tx signal. The Comparator receives a Tx and a Rx signal, and supplies a DC input to the Attenuator Control corresponding to the Rx signal. The Attenuator Control provides a control signal to the Tx and the Rx Attenuator to switch the appropriate signals on and off. The Attenuator Control also detects the level of the volume control to automatically adjust for changing ambient conditions.

16.8.2.1. Transmission signal path:

The input signal from the microphone is sent through the circuit via the following path:

- Mic → Pin 9 of IC601 → Pin 10 of IC601 → Pin 3 of IC601 → Pin 4 of IC601 → Q605 → C406 → R456 → Pin 8 of IC402 → Pin 11 (Line 1) or Pin 12 (Line 2) of IC402.

16.8.2.2. Reception signal path:

Signals receive from the telephone line are outputted at the speaker via the following path:

- Tel Line → Pin 6 (Line1) or Pin 5 (Line 2) of IC402 → Pin 9 of IC402 → C626 → R626 → (Q603)* → C622 → R618 → C612 → / Pin 29 of IC601 → Pin 28 of IC601 → Pin 20 of IC601 → Pin 16 of IC601 → Speaker.

NOTE:

( )*: In case of Line 2

16.8.2.3. Transmission/reception switching

The comparison result between Tx and Rx outputs as a DC level of IC601 of Pin 26.
Tx level is high ..... Pin 26 = Pin 21 — 6 mV
Rx level is high ..... Pin 26 = Pin 21 — 150 mV

Comparator output is connected to the attenuator control inside of IC601.

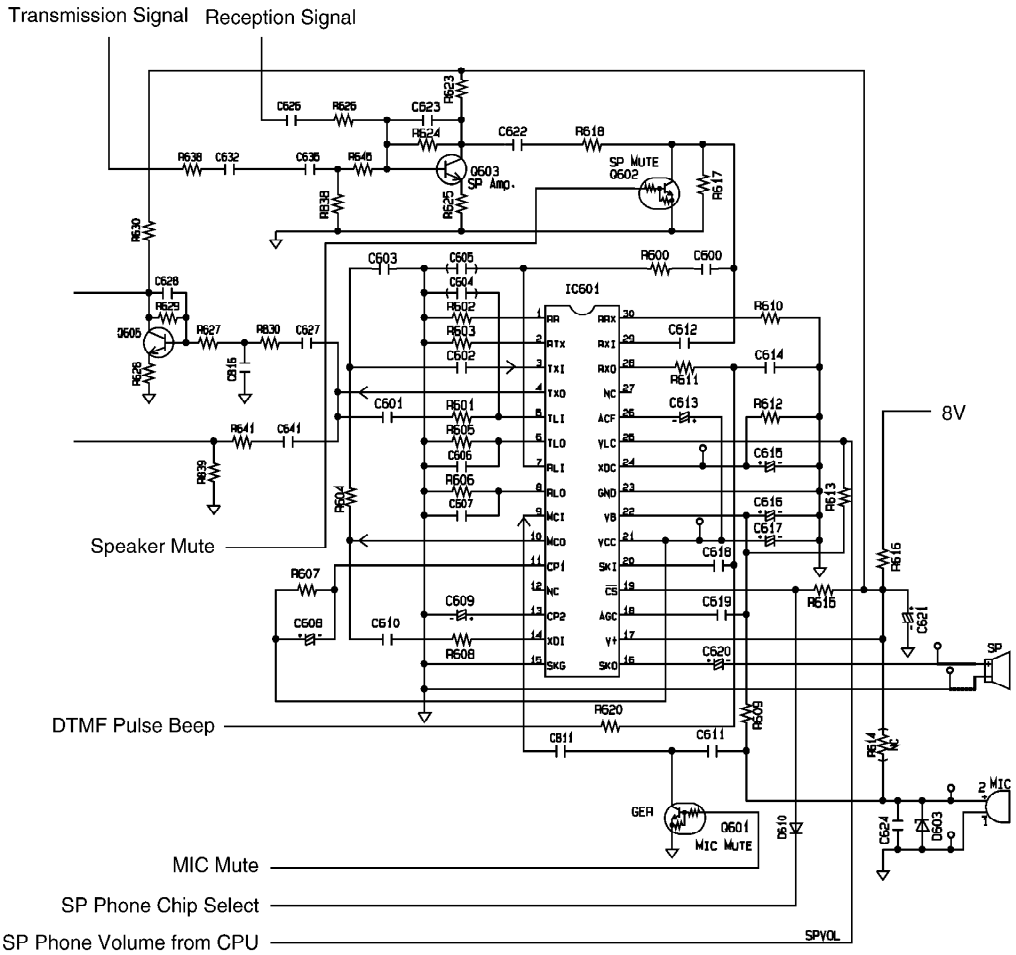
16.8.2.4. Voice detector

The output of the mic amp Pin 10 of IC601 is supplied to Pin 14 of IC601 as a control signal for the voice detector.

16.8.2.5. Attenuator control

The attenuator control detects the setting of the volume control through Pin 25 of IC601 to automatically adjust for changing ambient conditions.

Circuit Diagram



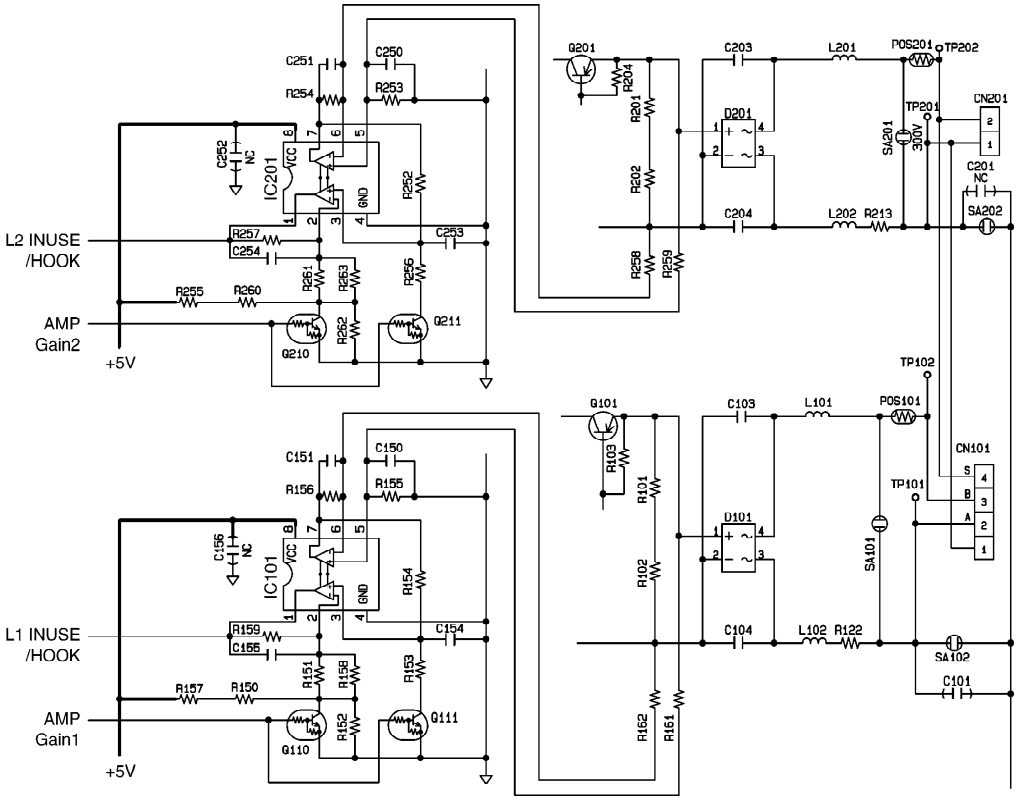
16.9. In Use Detector Circuit

16.9.1. Function:

This circuit is designed to automatically provide on LED indication when either one's own telephone or another telephone is connected in parallel across the line is engaged.

16.9.2. Circuit operation:

When the circuit voltage is more than 30 V by mode A or more than 20 V by mode B, the unit and telephone are ON Hook.
When the circuit voltage is less than 25 V by mode A or less than 16 V by mode B, the unit and telephone are OFF-Hook.
If the LINE not use, the IC102 (7) (IC202 (7))* output is more than 3.25 V by mode A or more than 2.5 V by mode B.
If the LINE use, the IC102 (7) (IC202 (7))* output is less than 3.25 V by mode A or more than 2.5 V by mode B.



Parallel connection detection when of hook:
When off hook, the voltage is monitored pin 1 of IC102 (IC202)*; the presence/absence of a parallel connection is determined when the voltages by 0.2 V or more.

NOTE:

( )*: In case of Line 2

16.10. Telephone Line Interface

16.10.1. Circuit operation:

On hook

Q101(Q201)* is open, Q101(Q201)* is connected as to cut the DC loop current and to cut the voice signal. The unit is consequently in an on-hook condition.

Bell detect

In the idle mode, Q101(Q201)* is open to cut the DC loop current and decrease the ring load. When ring voltage appears at the Tip (T) and Ring (R) leads (when the telephone rings),the AC ring voltage is transferred as follows:

T → POS101 → C118 → R123 → PC102 → IC701 Pin 30: LINE1(T → POS201 → C215 → R214 → PC202 → IC701 Pin 32:LINE2)*

When the CPU detects a ring signal, Q101(Q201)* turn on,thus providing an off-hook condition (active DC current flow through the circuit) and the following signal flow is for the DC loop current.

T → POS101 → D101 → Q101 → Q102 → R110 → D105 → D101 → R:LINE1

T → POS201 → D201 → Q201 → Q202 → R212 → D205 → Q207 → D204 → D201 → R:LINE2

The receiving signal flows:

POS101(POS201)* → Q101(Q201)* → C108(C207)* → C110(C209)* → R114(R211)* → Q103(Q203)* → C115(C220)* → R137(R231)* → Q104(Q205)* → PC103.

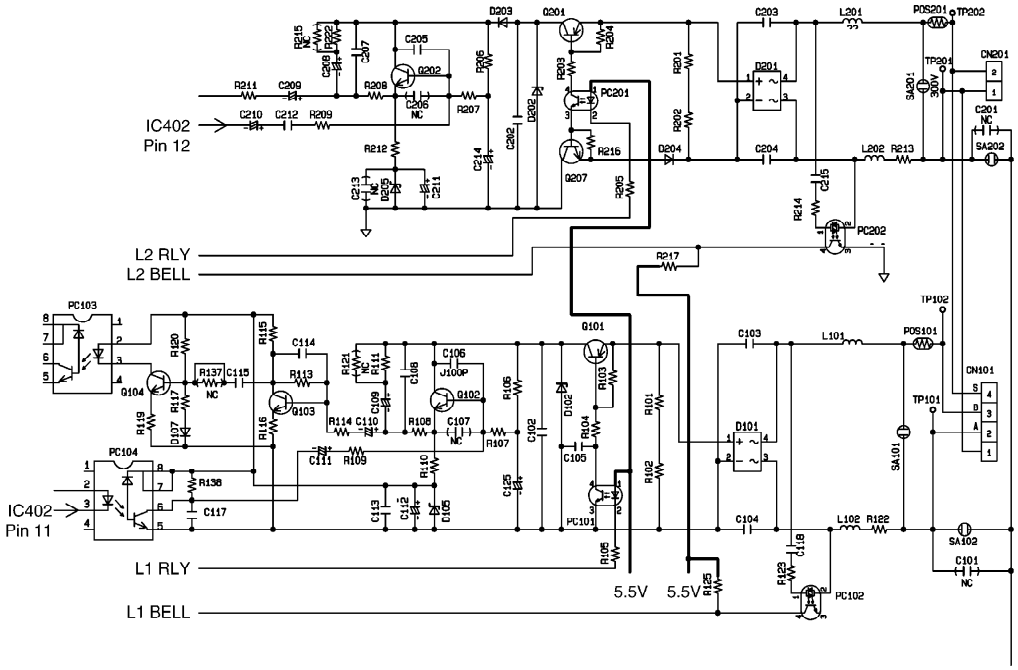
The transmission signal flows:

Line1: IC402 Pin 11 → VR101 → R131 → C124 → Q106 → PC104 → C111 → R109 → Q101 → POS101

Line2: IC402 Pin 12 → C210 → C212 → R209 → Q201 → POS201

NOTE:

( )*: In case of Line 2



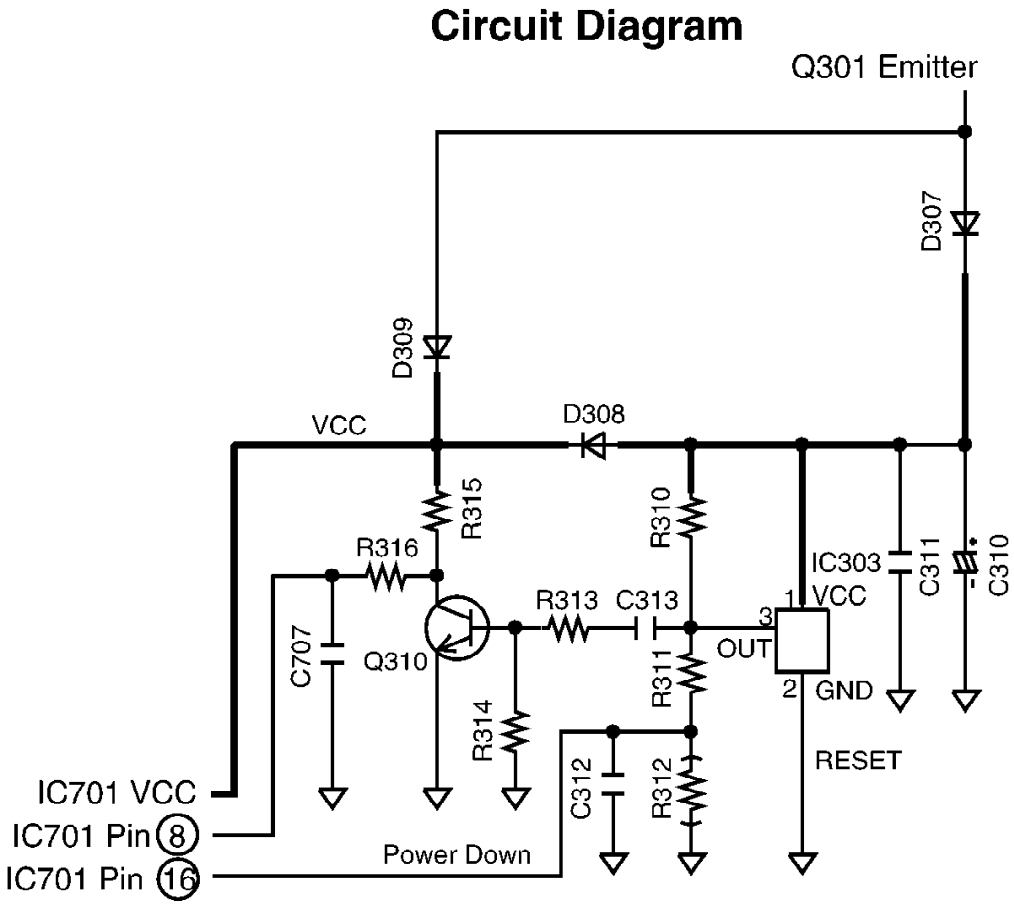
16.11. Initializing Circuit

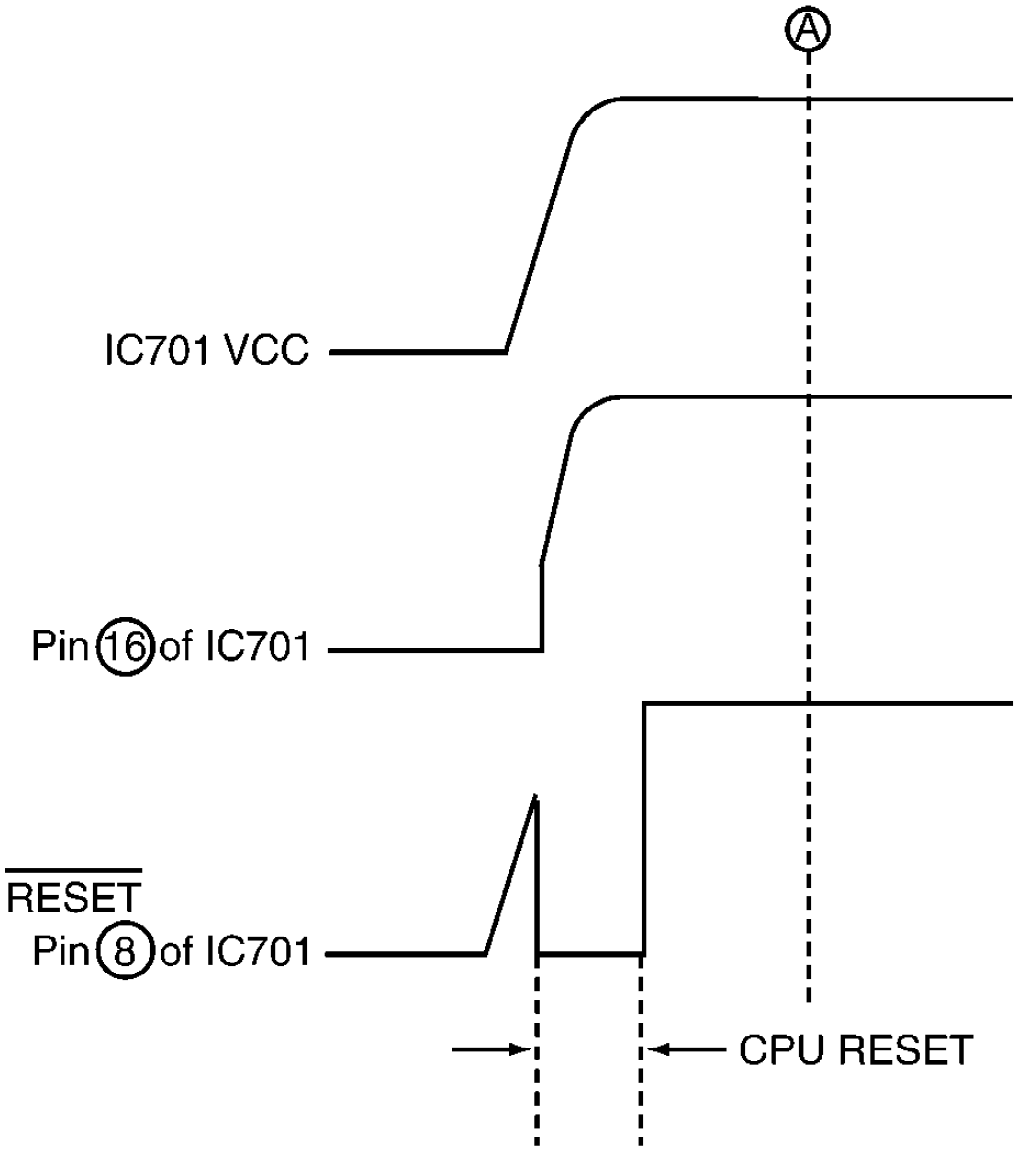
16.11.1. Function:

This circuit is used for to initialize the microcomputer when it incorporates an AC adaptor.

16.11.2. Circuit operation:

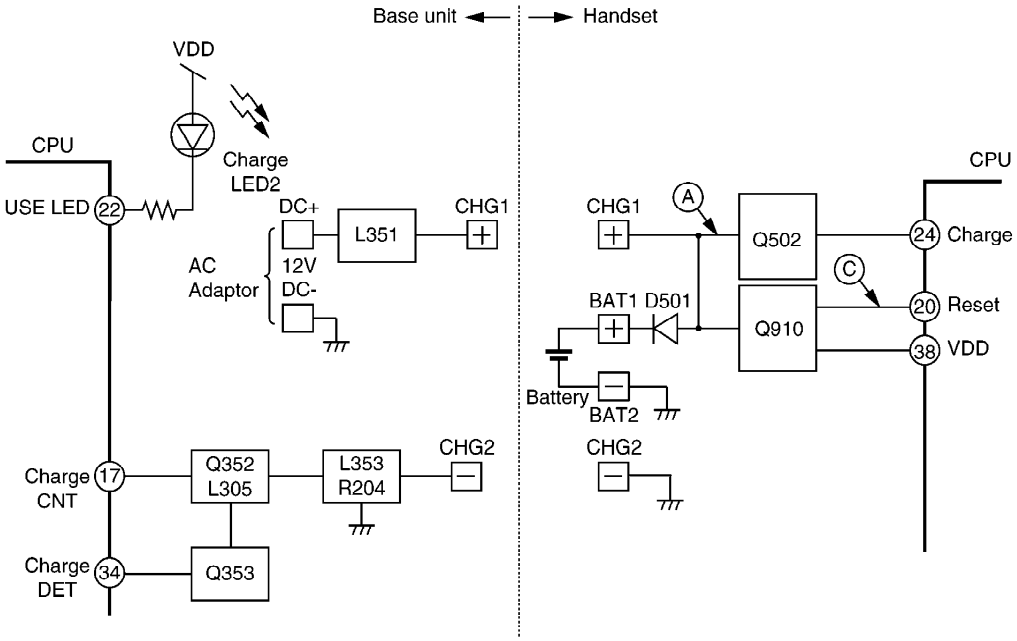
When the AC Adaptor is inserted into the unit, then the voltage is shifted by D309 and power is supplied to the CPU.
The set can operate beyond point A in the circuit voltage diagram.





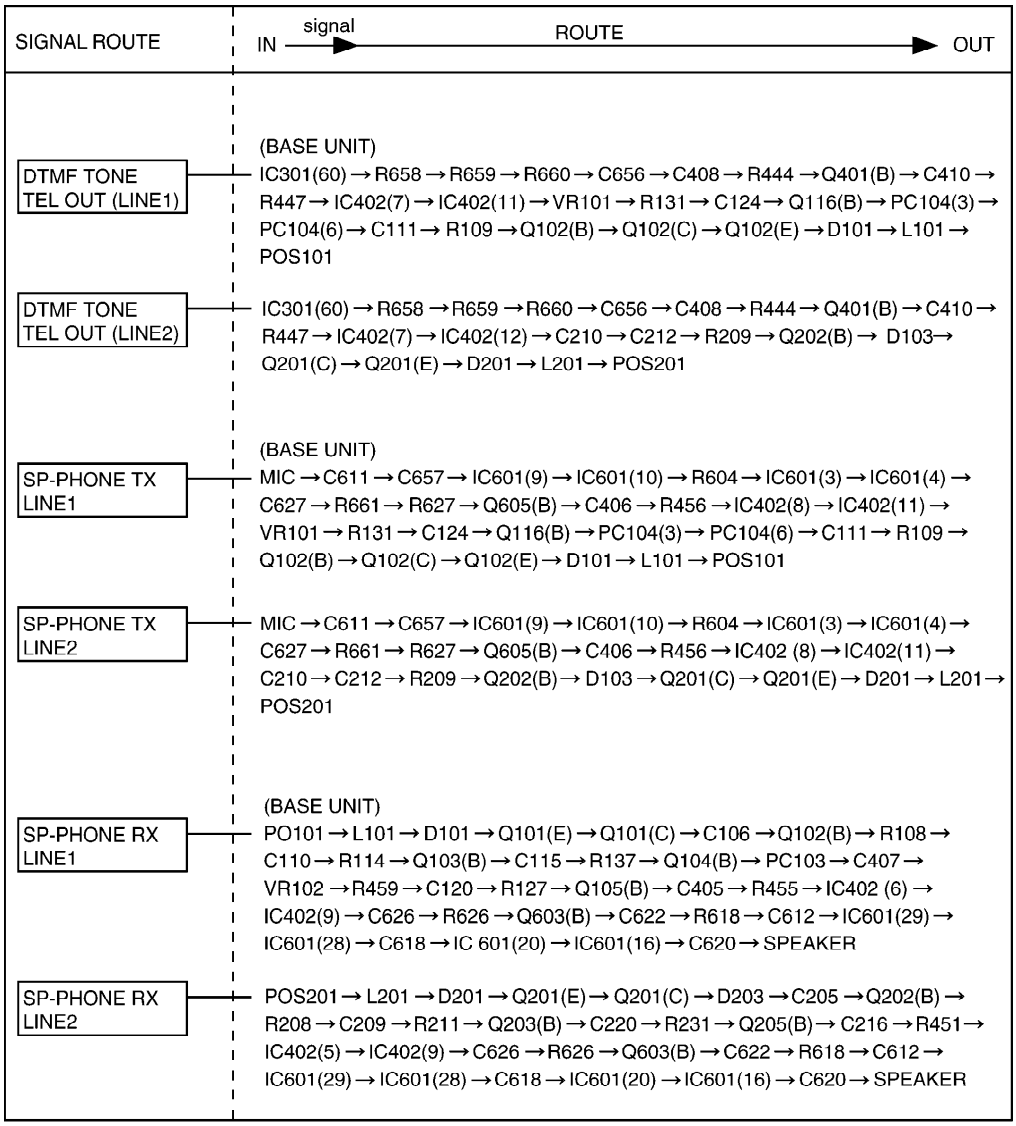
16.12. Charge Circuit

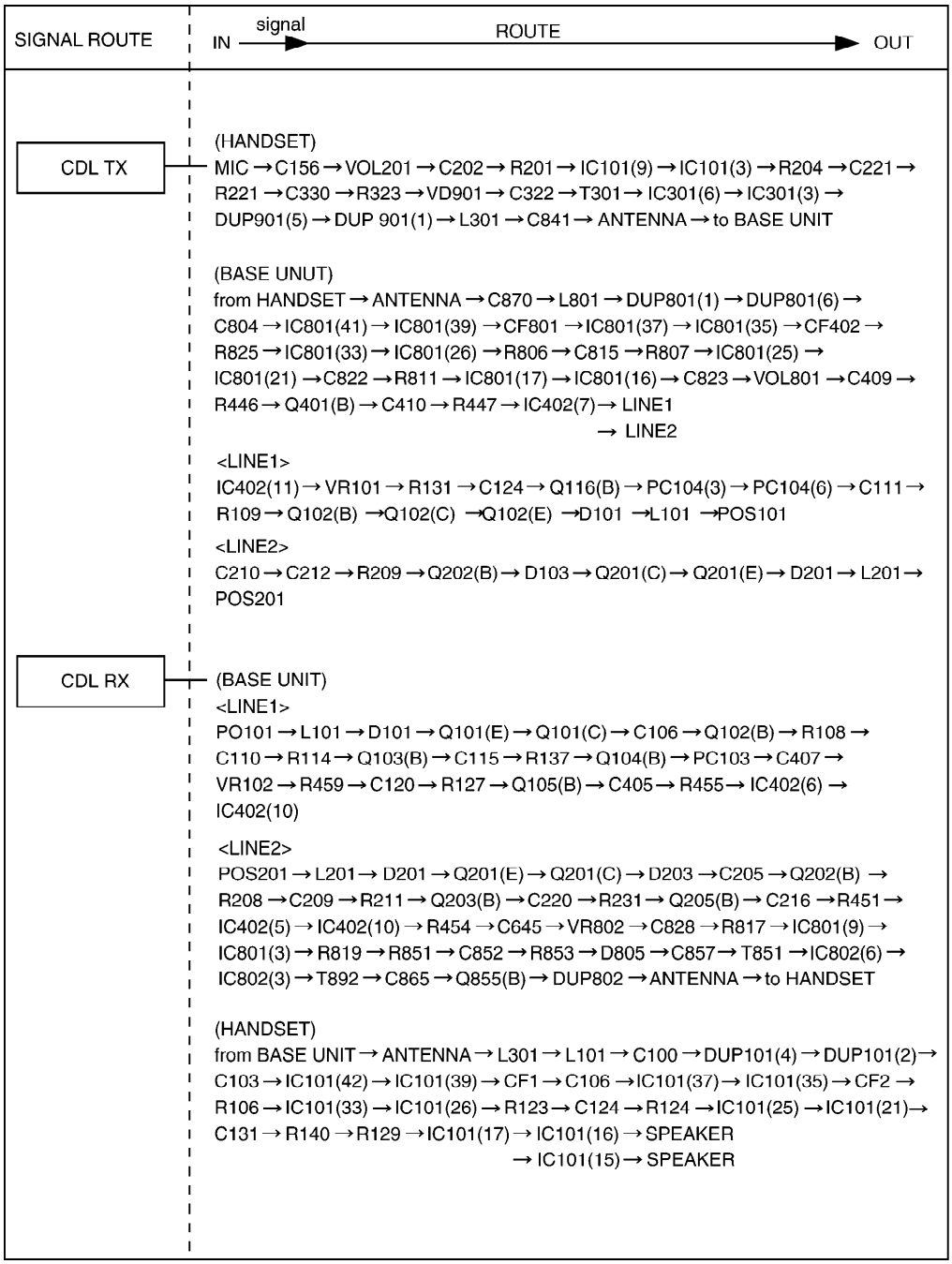
Circuit Operation:
When charging the handset on the base unit, the charge current is as follows;
DC+(12V) → L351 → CHG (Base) → [JT+ (Handset) → L503 → D501 → CN1-2....Battery....CN1-1 → JT- (Handset)] → CHG- (Base) → L353 → R352 → DC-(GND),
In this way, the CPU on both unit detects the fact that the battery is charged.
The charge current is controlled by switching Q353 (Base). The battery is charged in normal mode for 10 hours and then in trickle mode.



16.13. Signal Route

Each signal route is as follows.


SIGNAL ROUTE
IN
signal
ROUTE
OUT
(BASE UNIT)
DTMF TONE TEL OUT (LINE1)
IC301(60) → R658 → R659 → R660 → C656 → C408 → R444 → Q401(B) → C410 → R447 → IC402(7) → IC402(11) → VR101 → R131 → C124 → Q116(B) → PC104(3) → PC104(6) → C111 → R109 → Q102(B) → Q102(C) → Q102(E) → D101 → L101 → POS101
DTMF TONE TEL OUT (LINE2)
IC301(60) → R658 → R659 → R660 → C656 → C408 → R444 → Q401(B) → C410 → R447 → IC402(7) → IC402(12) → C210 → C212 → R209 → Q202(B) → D103 → Q201(C) → Q201(E) → D201 → L201 → POS201
(BASE UNIT)
SP-PHONE TX LINE1
MIC → C611 → C657 → IC601(9) → IC601(10) → R604 → IC601(3) → IC601(4) → C627 → R661 → R627 → Q605(B) → C406 → R456 → IC402(8) → IC402(11) → VR101 → R131 → C124 → Q116(B) → PC104(3) → PC104(6) → C111 → R109 → Q102(B) → Q102(C) → Q102(E) → D101 → L101 → POS101
SP-PHONE TX LINE2
MIC → C611 → C657 → IC601(9) → IC601(10) → R604 → IC601(3) → IC601(4) → C627 → R661 → R627 → Q605(B) → C406 → R456 → IC402 (8) → IC402(11) → C210 → C212 → R209 → Q202(B) → D103 → Q201(C) → Q201(E) → D201 → L201 → POS201
(BASE UNIT)
SP-PHONE RX LINE1
PO101 → L101 → D101 → Q101(E) → Q101(C) → C106 → Q102(B) → R108 → C110 → R114 → Q103(B) → C115 → R137 → Q104(B) → PC103 → C407 → VR102 → R459 → C120 → R127 → Q105(B) → C405 → R455 → IC402 (6) → IC402(9) → C626 → R626 → Q603(B) → C622 → R618 → C612 → IC601(29) → IC601(28) → C618 → IC 601(20) → IC601(16) → C620 → SPEAKER
SP-PHONE RX LINE2
POS201 → L201 → D201 → Q201(E) → Q201(C) → D203 → C205 → Q202(B) → R208 → C209 → R211 → Q203(B) → C220 → R231 → Q205(B) → C216 → R451 → IC402(5) → IC402(9) → C626 → R626 → Q603(B) → C622 → R618 → C612 → IC601(29) → IC601(28) → C618 → IC601(20) → IC601(16) → C620 → SPEAKER



17. BLOCK DIAGRAM (HANDSET)

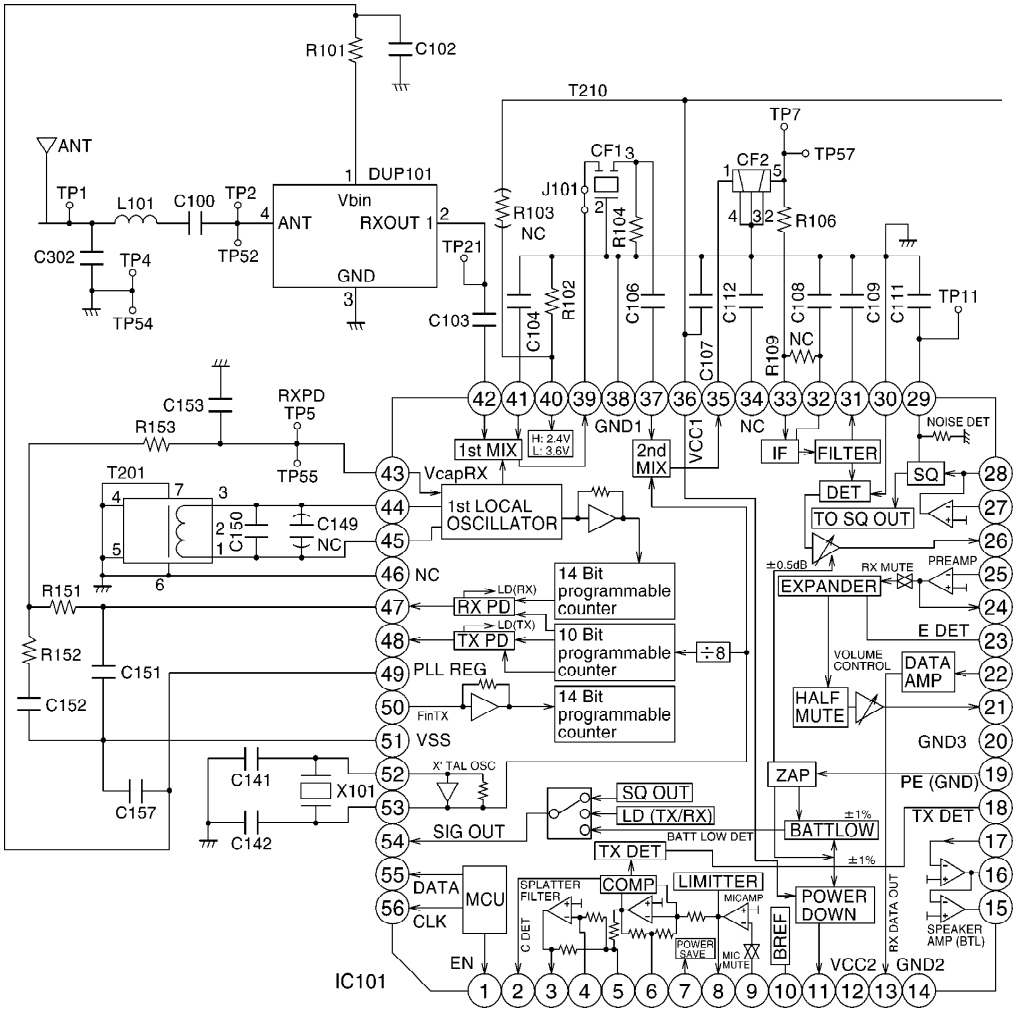
18. CIRCUIT OPERATION (HANDSET)

18.1. Receiver RF IF Circuit

18.1.1. Circuit Operation:

The signal of 46 MHz band (43.72 MHz~44.20 MHz) which is input from ANT is filtered by DUP101, and is input to Pin 42of IC101.The RX VCO which oscillates at T201 and IC101 is locked to 1st Local frequency by PLL inside IC101. (PLL is controlled by serial data output from Pin 28 , 29 and 30 of IC901.)An input signal from Pin 42 of IC101 and 1st Local frequency output from RX

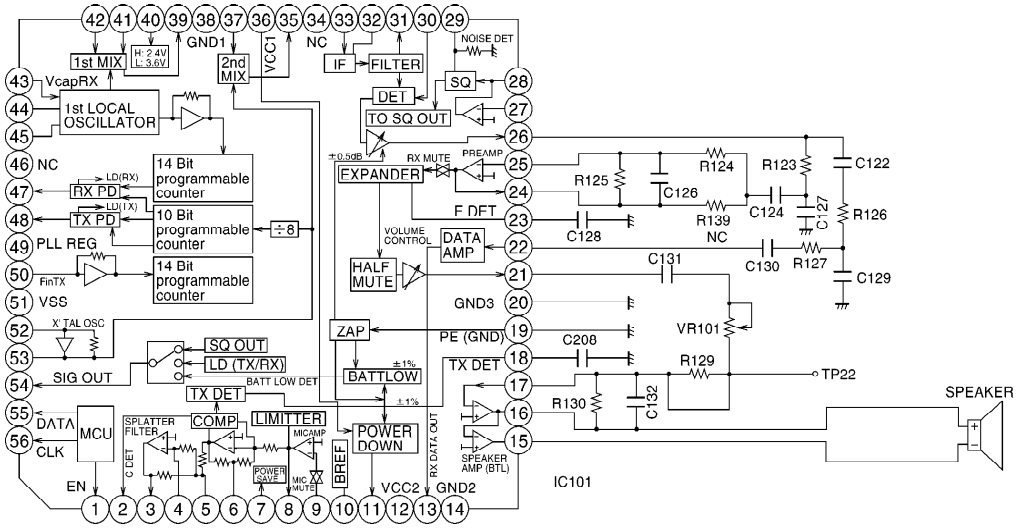
VCO are mixed inside IC101, pass through CF1, and 1st IF frequency of 10.695 MHz is generated.Further, 10.695 MHz and 10.240 MHz that oscillated at X101, passes through MIXER inside IC101 and is filtered at CF2 and outputs 2nd IF 455 kHz.



18.2. Receiver Signal Circuit

18.2.1. Circuit Operation:

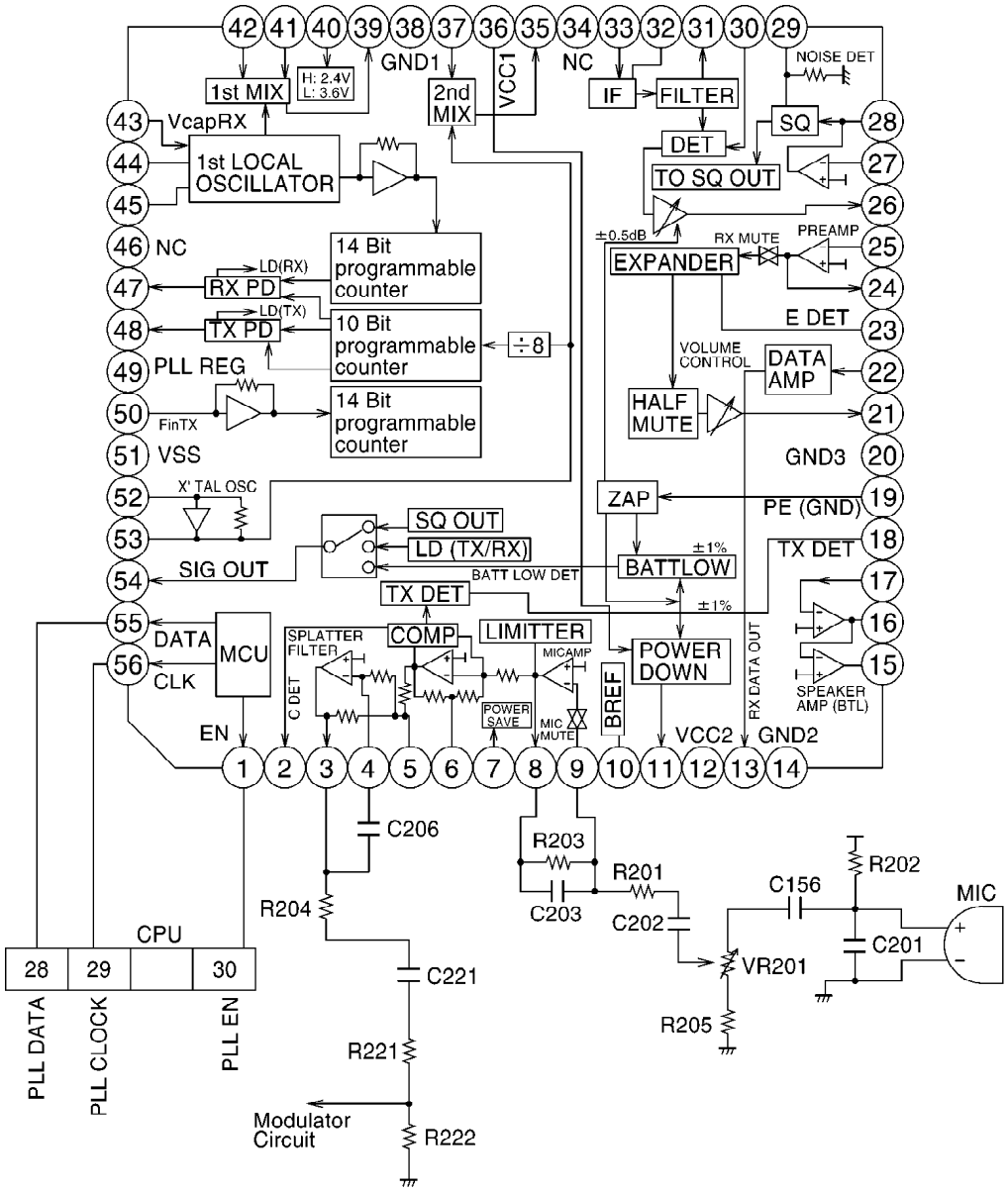
After getting the 455kHz signal, it is input to Pin 33 of IC101 and passes through IF AMP and Detector Circuit, then are output to Pin 26 . AF signal flows through R123, C124. Its level is controlled by the VOLUME CONTROL Amp of IC101.The signal is received at Pin 25 of IC101, then it passes through the following circuits: PREAMP, Expander and Amplifier: It goes out at Pin 16 and finally is sent to the SP.Inside IC101, RX-MUTE, MIC-MUTE and PLL circuits are controlled by the serial data that the CPU send from Pins 28 , 29and 30 .



18.3. Transmitter Signal Circuit

18.3.1. Circuit Operation:

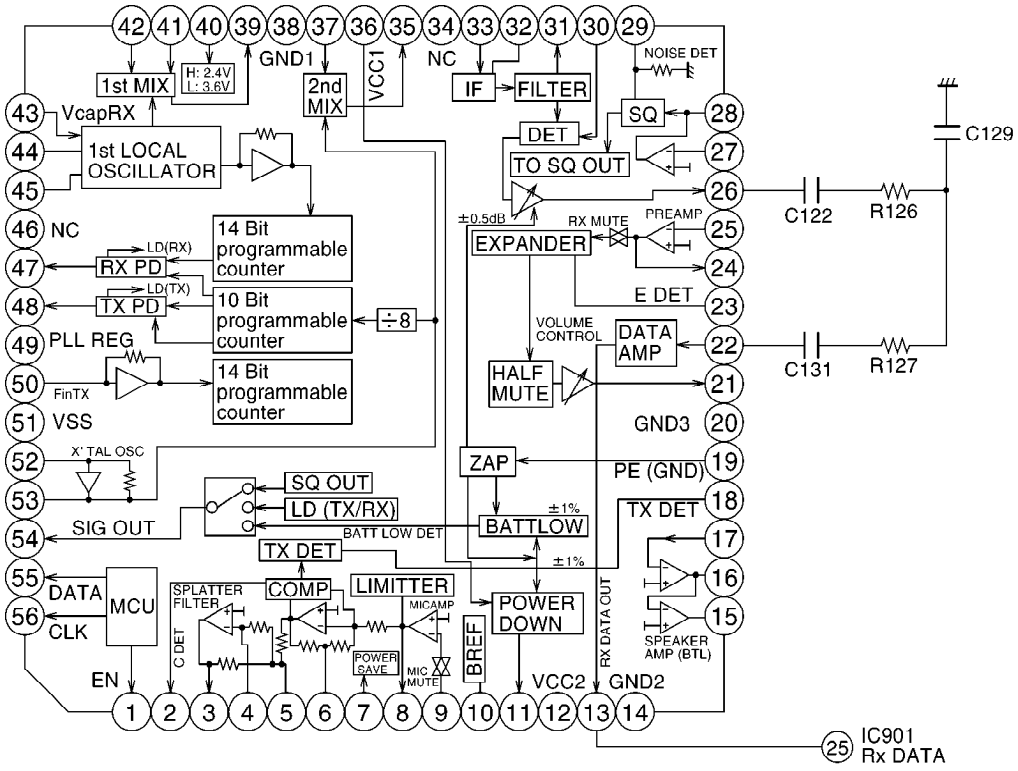
Input signal from MIC passes through the filters arranged by C202, VR201, R201 and C203, R203 and it is input to the Pin 9 of IC101.Inside it, the signal passes through the MIC AMP and Compressor circuits and SPLATTER FILTER is output to Pin 3.It flows through R204, C221, R221, then is input to modulator circuit.



18.4. Receiver Data Circuit

18.4.1. Circuit Operation:

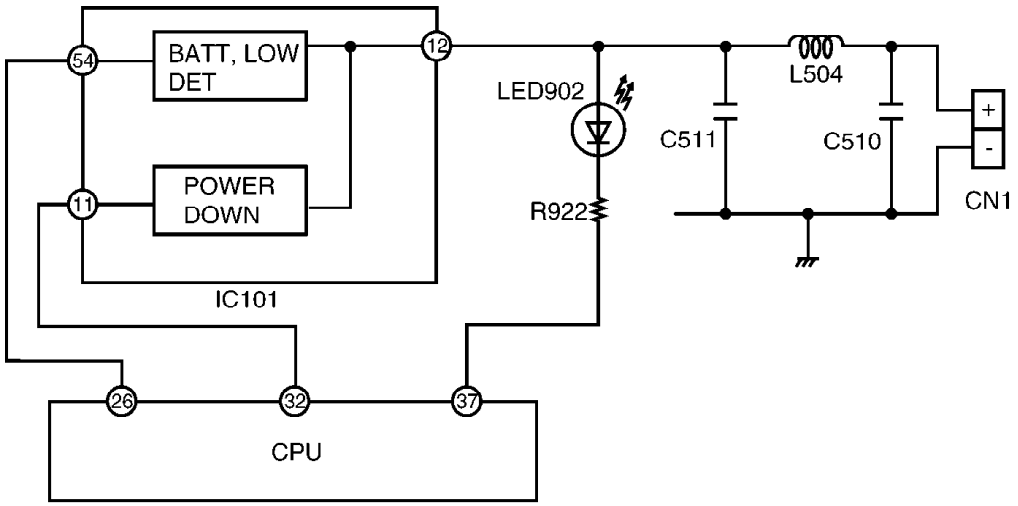
Only the data received are passed through the low pass filter formed by R216 and C129 to be input at pin 22 of IC101,where its wave form is adjusted.The resulting signal is output from Pin 13 and sent to CPU directly.



18.5. Battery Low Detector Circuit

18.5.1. Circuit Operation:

When the battery voltage goes down less than 3.45 V. this level is detected by the inside of IC101, so its output is sent to Pin 26 of IC901.The CPU detects this level by its Pin 26 and battery low indicator lights starts flashing.The IC101 check the level of the battery, if this level is less than 3.3 V, the output of Pin 11 of IC101, then CPU stopsworking to keep the data (CH number ID code, etc.).

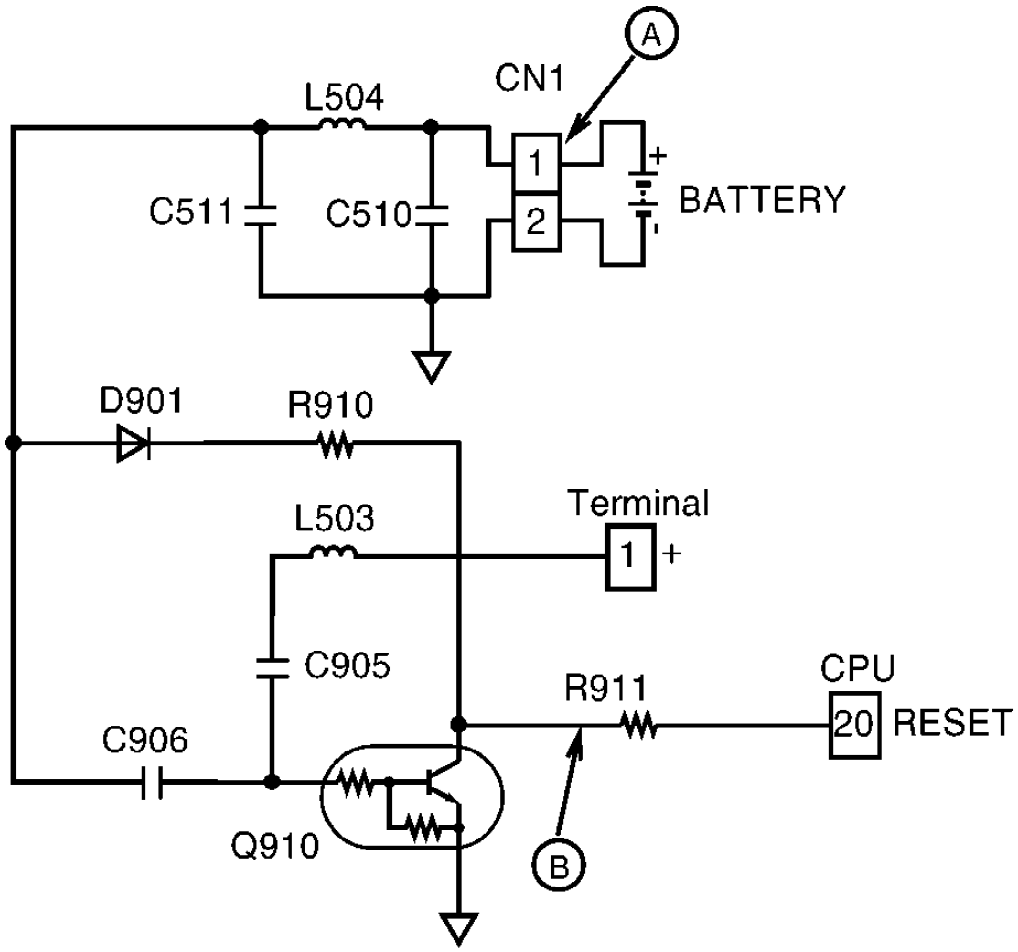


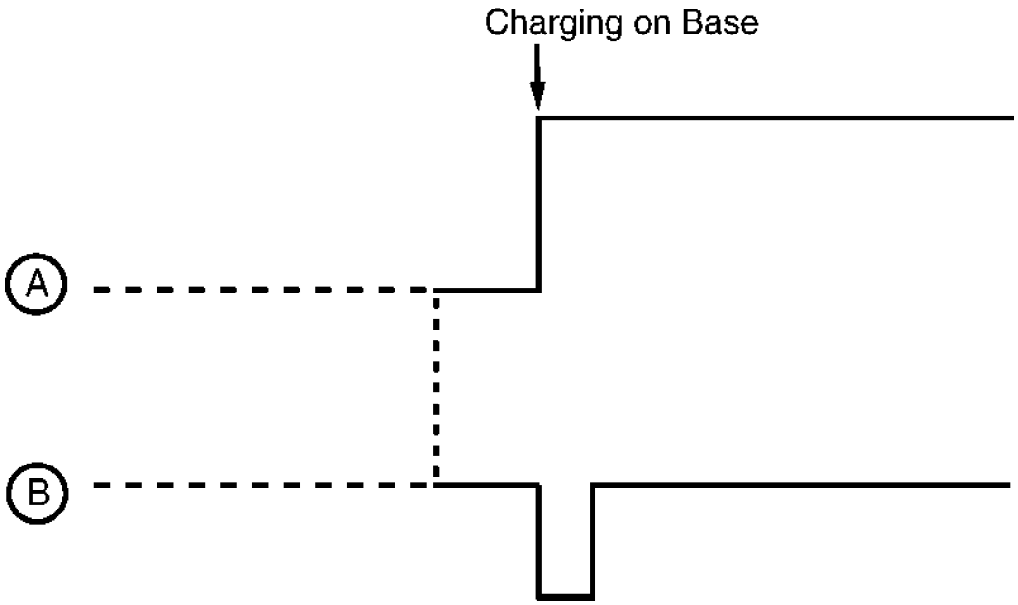
18.6. CPU Operation

CPU Terminals / Operation Mode	44 TX DATA	44 POWER SAVE	31 TX POW	12 BEEP	36 TALKLED
STAND BY	L	intermittently H or L	H	H	H
TALK	L	H	L	H	L
Base Unit → Handset Ring	-	H	H	L	FLASHING
Base Unit → Handset Paging	-	H	H	L	H
CHARGE	L	L	H	H	H
During (TALK)	-	H	L	H	L
Handset PULSE DIAL	DATA	H	L	H	L
Handset TONE DIAL	DATA	H	L	H	L
Handset OFF MODE	L	L	H	H	H

18.7. Reset Circuit

When the handset is charged, the impulse is sent through C905, Q910 generates the reset signal and it is sent to Pin 20 of CPU.





19. CPU DATA (BASE UNIT)

19.1. IC701

Pin	Description	I/O	High	Hi-z	Low
1	Not used	-	-	-	Fixed
2	Not used	-	-	-	-
3	GND	-	-	-	Fixed
4	OSC2	-	Active	-	Active
5	OSC1	-	Active	-	Active
6	TEST terminal	-	-	-	Fixed
7	Power supply	-	Fixed	-	-
8	Reset	D.I	Normal	-	Reset
9	PLL_EN	D.O	Active	-	Normal
10	PLL/XSW_CLK	D.O	Active	-	Active
11	XSW_LATCH	D.O	Active	-	Normal
12	PLL/XSW_DATA	D.O	"1"	-	"0"
13	L1 AMP GAIN	D.O	Off-Hook	-	On-Hook
14	L2 AMP GAIN	D.O	Off-Hook	-	On-Hook
15	(TX MODE)	D.O	-	Normal	Active
16	POWDOWN	D.I	Normal	-	Power down
17	CHGCNT	D.O	-	Normal	Trickle
18	Not used	D.O	-	-	Fixed
19	LINE1 LED	D.O	-	LED OFF	LED On
20	LINE2 LED	D.O	-	LED OFF	LED On
21	SP-PHONE LED	D.O	-	LED OFF	LED On
22	IN USE LED	D.O	-	LED OFF	LED On
23	BEEP output	D.O	Active	-	Active
24	TEST PIN	D.I	Normal	-	Test
25	RX DATA	D.I	Active	-	Active
26	SQLCH	D.I	None	-	Electric field
27	TX DATA	D.O	Active	-	Normal
28	L1 RLY	D.O	BREAK	-	MAKE
29	L2 RLY	D.O	BREAK	-	MAKE
30	L1 BELL	D.I	None	-	Rings
31	L2 BELL	D.I	None	-	Rings
32	TX POW	D.O	-	Power off	Power on

Pin	Description	I/O	High	Hi-z	Low
33	Not used	D.O	-	-	Fixed
34	CHGDET	D.I	Off Charge	-	Charge
35	TP_CHG	D.O	PULSE	-	TONE
36	KEY IN	D.I	Key off	-	Key on
37	KEY IN	D.I	Key off	-	Key on
38	KEY IN	D.I	Key off	-	Key on
39	KEY IN	D.I	Key off	-	Key on
40	KEY STRB	D.O	-	Active	Active
41	KEY STRB	D.O	-	Active	Active
42	KEY STRB	D.O	-	Active	Active
43	KEY STRB	D.O	-	Active	Active
44	KEY STRB	D.O	-	Active	Active
45	OPT STRB	D.O	Active	-	Active
46	OPT STRB	D.O	Active	-	Active
47	OPT STRB	D.O	Active	-	Active
48	BEEP CTL1	D.O	-	Active	Active
49	BEEP CTL2	D.O	-	Active	Active
50	SP MUTE	D.O	Mute	-	Unmute
51	MIC MUTE	D.O	Mute	-	Unmute
52	INTERCOM	D.O	Mute	-	Unmute
53	SP VOL1	D.O	-	Active	Active
54	SP VOL2	D.O	-	Active	Active
55	SP VOL3	D.O	-	Active	Active
56	SP VOL4	D.O	-	Active	Active
57	SP CS	D.O	Off	-	On
58	DIAL CTL1	D.O	H Dial off	-	H Dial On
59	DIAL CTL2	D.O	R Dial off	-	R Dial On
60	DTMF	-	Active	Normal	Active
61	DTMF level	-			
62	L2 INUSE	A.I		-	
63	L1 INUSE	A.I		-	
64	Cvcc	I	-	-	-

19.2. CPU Option

FLASH TIME	700 msec.	600 msec.	400 msec.	300 msec.	250 msec.	110 msec.	100 msec.	90 msec
D905	0	0	0	0	1	1	1	1
D906	0	0	1	1	0	0	1	1
D907	0	1	0	1	0	1	0	1

D905—D907 are used for default setting.
When you change the flash time, do the following procedure.
In case the program should be set frequency, change the default at D905—D907, then set the

program.

20. CPU DATA (HANDSET)

20.1. IC901

Pin	Description	I/O	High	Hi-z	Low
1	Option Strobe	D.O	Normal		(Active)
2	Option Strobe	D.O	Normal		(Active)
3	Key Strobe	D.I/O		(Active)	Normal
4	Key Strobe	D.I/O		(Active)	Normal
5	Key Strobe	D.I/O		(Active)	Normal
6	Key Strobe	D.I/O		(Active)	Normal
7	Key Strobe	D.I/O		(Active)	Normal
8	Key In	D.I	Normal		Key In
9	Key In	D.I	Normal		Key In
10	Key In	D.I	Normal		Key In
11	Key In	D.I	Normal		Key In
12	Beep Clock	D.O	Normal		(Beep)
13	IC	-			Normal
14	Main Clock	-			
15	3.991MHz	A.I			
16	VSS0	-			Normal
17	VDD0	-	Normal		
18	Sub Clock	-			
19	32.768kHz	A.I			
20	RESET	D.I	Normal		Reset
21	Beep Volume	D.O	Low		High
22	Not Used	D.O			Normal
23	ID (Control)	D.I	Normal		(Data)
24	Charge	D.I	Off		Charge
25	RX Data	D.I	Normal		(Data)
26	Sig. Out	D.I	Batt Hi/Weak electric field		Batt Low/Strong electric field
27	Not Used	D.O			Normal
28	PLL Data	D.O	Normal		(Data)
29	PLL Clock	D.O	Normal		(Clock)
30	PLL Strobe	D.O	Latch		Normal
31	TX Power	D.O	Off		On
32	Power Save	D.O	On		Off
33	Power Down	D.I	Normal		Power Down
34	LINE1	D.O		Off	On
35	LINE2	D.I/O		Off	On
36	Talk LED	D.I/O		Off	On
37	Recharge LED	D.I/O		Off	On
38	VDD1	-	Normal		
39	VSS1	-			Normal
40	Not Used	D.O			Normal
41	Keypad Light LED	D.O	On		Off
42	Not Used	D.O			Normal
43	Not Used	D.O			Normal
44	Tx Data	D.O	High		Normal

21. HOW TO REPLACE FLAT PACKAGE IC

21.1. Preparation

- SOLDER / Sparkle Solder 115A-1, 115B-1 or Almit Solder KR-19,KR-19RMA

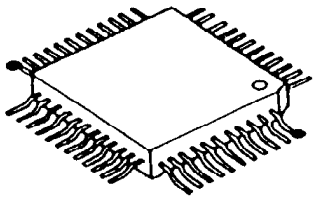
- Soldering iron / Recommended power consumption will be between 30 W to 40 W. / Temperature of Copper Rod 662 ± 50°F (350 ± 10°C) / (An expert may handle between 60 W to 40 W iron,

but beginner might damage foil by overheating.)

- Flux / HI115 Specific gravity 0.863 / (Original flux will be replaced daily.)

21.2. Procedure

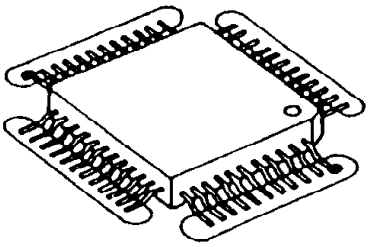
1. Temporary fix FLAT PACKAGE IC by soldering on two marked 2 pins.



● - - - - - - Temporary soldering point.

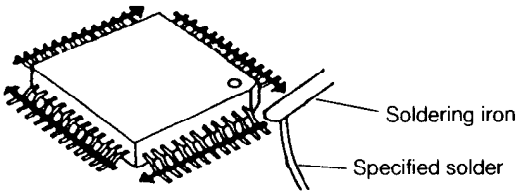
***Most important matter is accurate setting of IC to the corresponding soldering foil.**

2. Apply flux for all pins of FLAT PACKAGE IC.



Flux

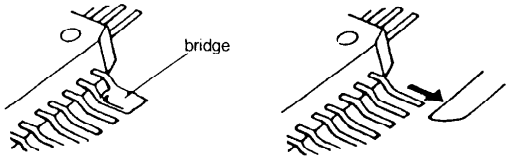
3. Solder employing specified solder to direction of arrow, as sliding the soldering iron.



21.3. Modification Procedure of Bridge

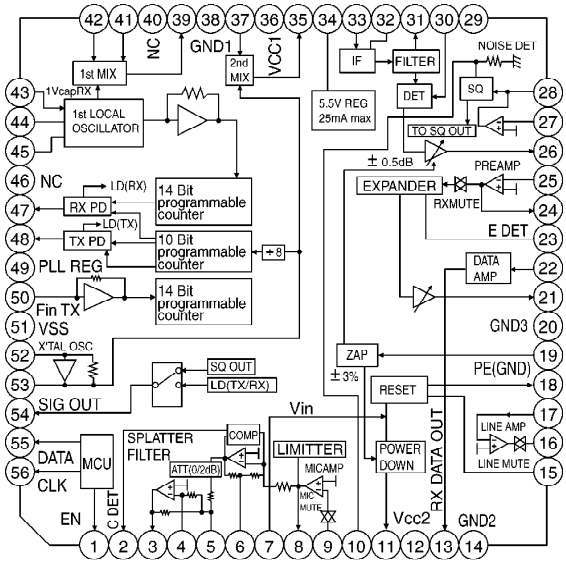
1. Re-solder slightly on bridged portion.

2. Remove remained solder along pins employing soldering iron as shown in below figure.



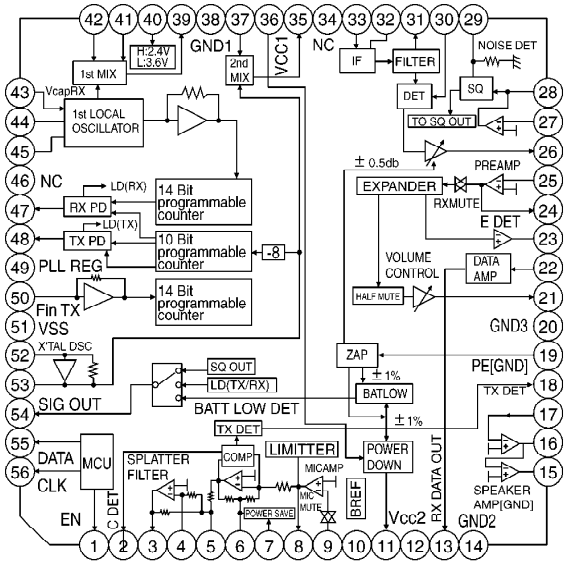
22. EXPLANATION OF IC TERMINALS

22.1. Base Unit: IC801



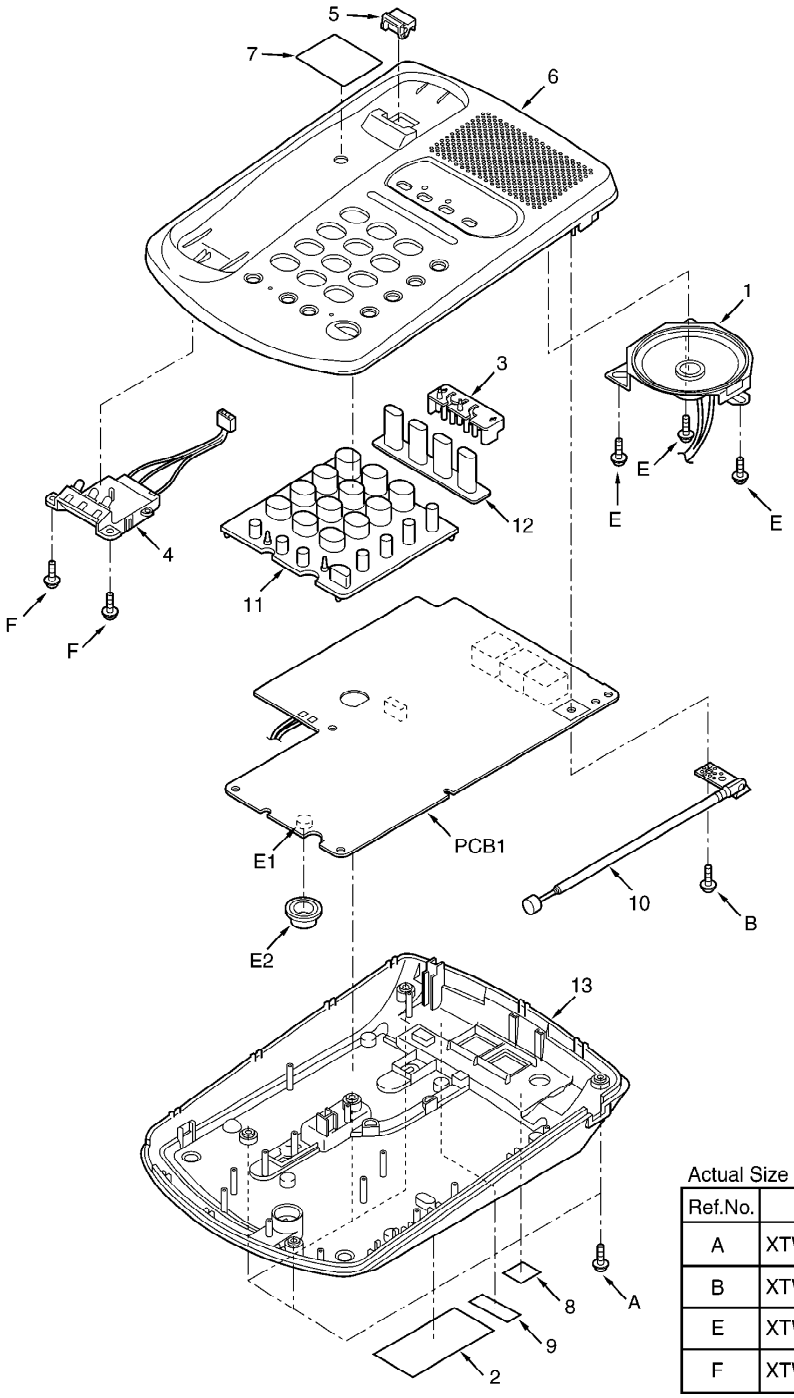
Pin. No.	Description	Pin. No.	Description
1	EN	29	IF-VREF
2	C-DET	30	QUAD
3	SF-OUT	31	BM-OUT
4	SF-C2	32	IF-REF
5	SF-C1	33	IF-IN
6	COMP-DC	34	VREG
7	PD-IN	35	MIX2-IN
8	MIC-OUT	36	VCC1
9	MIC-IN	37	MIX2-IN
10	SQ-DET	38	GND1
11	PD-OUT	39	MIX1-OUT
12	VCC2	40	NC
13	D-OUT	41	MIX1-IN1
14	GND2	42	MIX1-IN2
15	RESC	43	VA-CONT
16	LIN-OUT	44	VCOT1
17	LIN-IN	45	VCOT2
18	RESET	46	NC
19	PE	47	RX-PD
20	GND3	48	TX-PD
21	EXP-OUT	49	VDD
22	D-IN	50	FINT
23	E-DET	51	VSS
24	Pre-AMP-OUT	52	OSCI
25	Pre-AMP-IN	53	OSCO
26	DET-OUT	54	Sig-Out
27	NF-IN	55	DATA
28	NF-OUT	56	CLK

22.2. Handset: IC101



Pin. No.	Description	Pin. No.	Description
1	EN	29	N-DET
2	C-DET	30	QUAD
3	SF-OUT	31	PH-OUT
4	SF-P	32	IF-PASS
5	COMP-OUT	33	IF-IN
6	COMP-REF	34	IF-VREF
7	PD-IN	35	2MIX-OUT
8	MIC-OUT	36	VCC1
9	MIC-IN	37	2MIX-IN
10	BREF	38	GND1
11	PD-OUT	39	1MIX-OUT
12	VCC2	40	PDSW
13	DATA-AMP-IN	41	RF-IN2
14	GND2	42	RF-IN1
15	SP-OUT2	43	VA-CONT
16	SP-OUT1	44	1st-Lo1
17	SP-IN	45	1st-Lo2
18	TX-DET	46	NC
19	PE	47	RX-PD
20	GND3	48	TX-PD
21	VOL-OUT	49	PLL-REG
22	DATA-AMP-OUT	50	FIN-TX
23	E-DET	51	VSS
24	Pre-AMP-OUT	52	2Lo-IN
25	Pre-AMP-IN	53	2Lo-OUT
26	DET-OUT	54	Sig-Out
27	N FIL-IN	55	DATA
28	N FIL-OUT	56	CLK

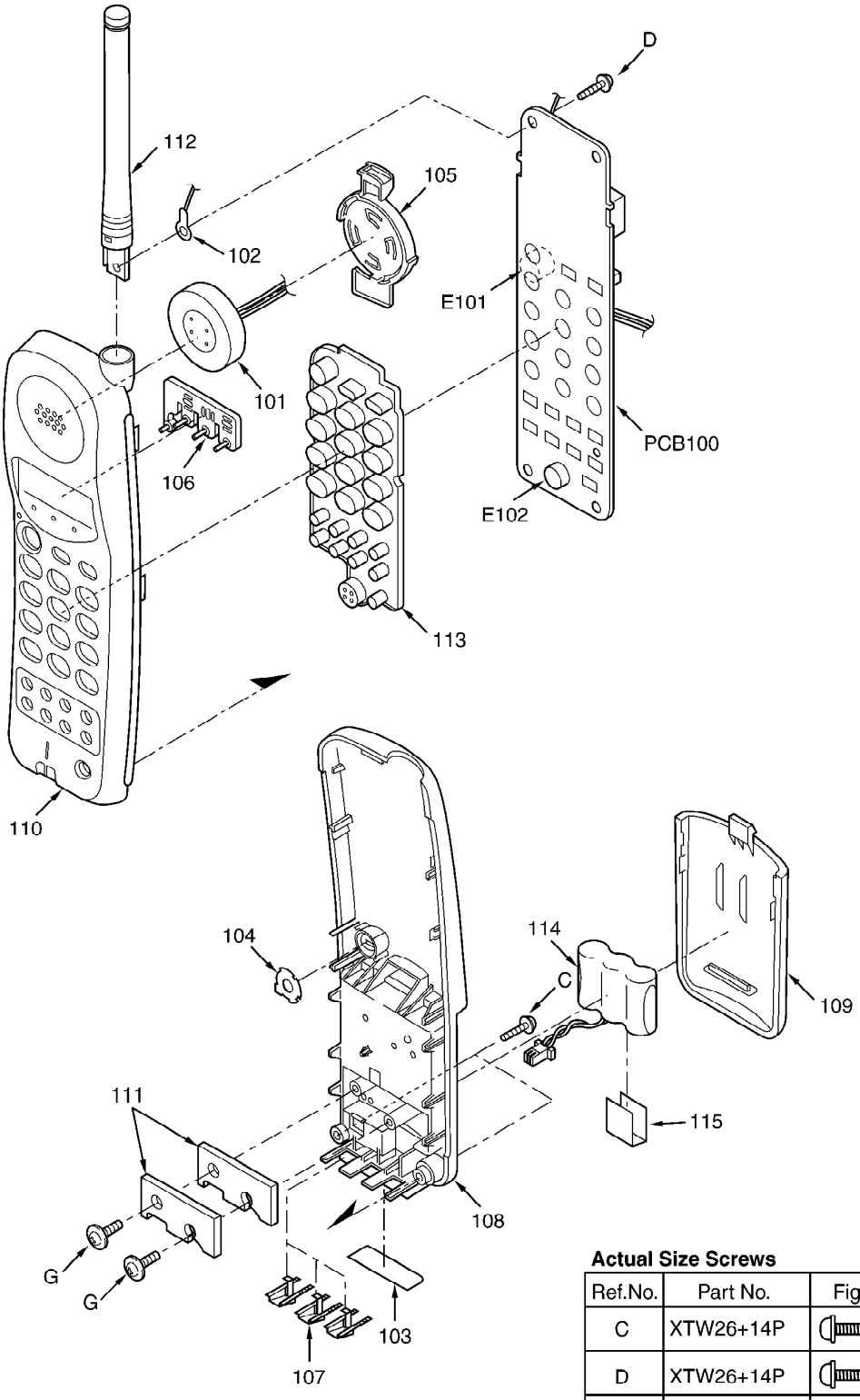
23. CABINET AND ELECTRICAL PARTS LOCATION (BASE UNIT)



Actual Size Screws

Ref.No.	Part No.	Figure
A	XTW3+S14P	
B	XTW3+CS14P	
E	XTW3+S8P	
F	XTW3+S10P	

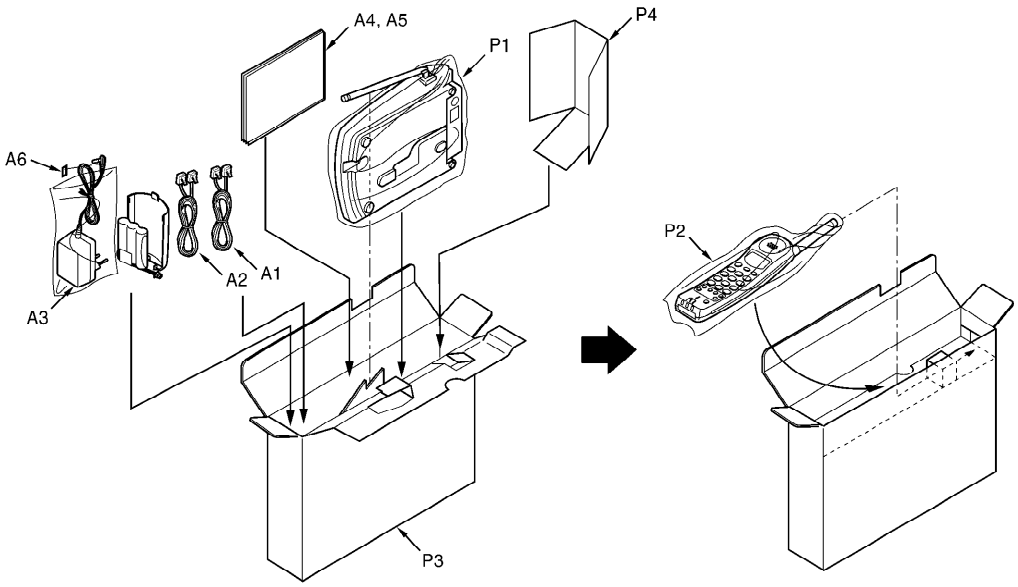
24. CABINET AND ELECTRICAL PARTS LOCATION (HANDSET)



Actual Size Screws

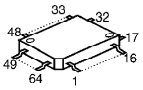
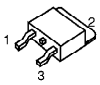
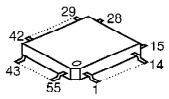
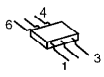
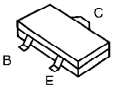
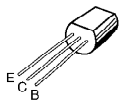
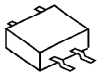
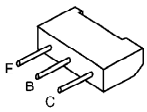
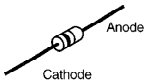
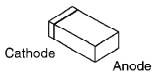
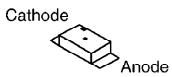
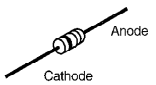
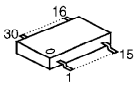
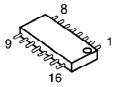
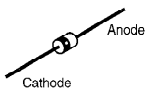
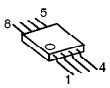
Ref.No.	Part No.	Figure
C	XTW26+14P	
D	XTW26+14P	
G	XTW26+U8P	

25. ACCESSORIES AND PACKING MATERIALS

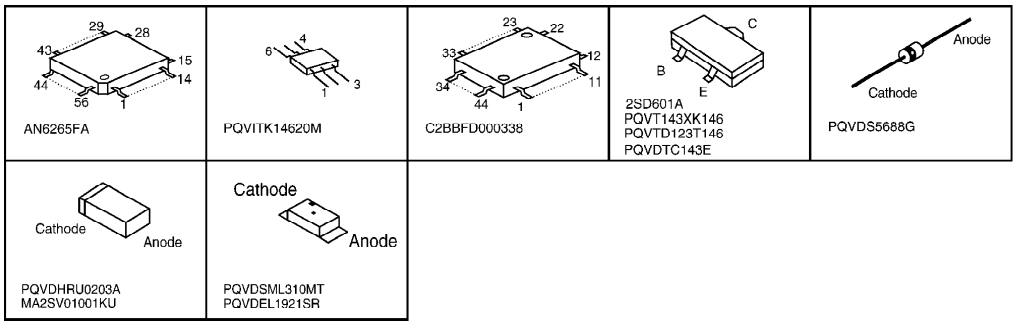


26. TERMINAL GUIDE OF THE ICs TRANSISTORS AND DIODES

26.1. Base Unit

 C2CBFE000008	 PQVIBA78M08F	 AN6266FA	 PQVITK14620M	 PQVTMSC2295C PQVTD143Z106 2SD1819A, 2SD601A UN5113, UN5213
 2SA1625 2SC2120	 PQVIPS3442UT	 2SD1991A, 2SD1994A 2SC4645EAN	PQVDS1ZB60F1	 MA4200, MA4300
 MA111 PQVDHVC375	 PQVDSML310MT PQVDEL1921SR	 MA4051, MA4030, MA4062	 PQVISC77655V	 PQVIBU8244F
 1SS119	 PQVINJM2904F			

26.2. Handset



27. REPLACEMENT PARTS LIST

Note:

1. RTL (Retention Time Limited)

The marking (RTL) indicates that the Retention Time is limited for this item.

After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability depends on the type of assembly and the laws governing parts and product retention.

At the end of this period, the assembly will no longer be available.

2. Important safety notice

Components identified by the ⚠ mark indicates special characteristics important for safety. When replacing any of these components, only use specified manufacture's parts.

3. The S mark indicates service standard parts and may differ from production parts.

4. RESISTORS & CAPACITORS

Unless otherwise specified;

All resistors are in ohms (Ω) K=1000 Ω , M=1000k Ω

All capacitors are in MICRO FARADS (μ F) P= μ μ F

***Type & Wattage of Resistor**

Type

ERC:Solid	ERX:Metal Film	PQ4R:Carbon
ERD:Carbon	ERG:Metal Oxide	ERS:Fusible Resistor
PQRD:Carbon	ER0:Metal Film	ERF:Cement Resistor

Wattage

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W

*Type & Voltage of Capacitor

Type

ECFD:Semi-Conductor	ECCD,ECKD,ECBT,PQCBC : Ceramic
ECQS:Styrol	ECQE,ECQV,ECQG : Polyester
PQCUV:Chip	ECEA,ECSZ : Electrolytic
ECQMS:Mica	ECQP : Polypropylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H: 50V	05: 50V	0F:3.15V	0J :6.3V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		0J:6.3V	1E,25:25V	2A :100V

27.1. Base Unit

27.1.1. CABINET AND ELECTRICAL PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
1	PQAS57P03Z	SPEAKER	
2	PQGT14931Z	NAME LABEL	
3	PQHR10678X	LED LENSE	
4	PQJT10151X	CHARGE TERMINAL	S ⚠
5	PQKE10082Z1	HOOK LEVER	S
6	PQKM10447WA	UPPER CABINET	
7	PQQT11773Z	CHARGE LABEL	
8	PQQT11859Z	ADAPTOR LABEL	
9	PQQT22096Z	ADAPTOR LABEL	
10	PQSA10092Y	ANTENNA	
11	PQSX10091X	20 KEY BUTTON, RUBBER	
12	PQSX10107Z	4 KEY BUTTON, RUBBER	
13	PQYF10154H1	LOWER CABINET	S

27.1.2. MAIN P.C.BOARD PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
PCB1	PQWPC1085BXH	MAIN P.C.BOARD ASS'Y (RTL)	
		(ICS)	
IC101	PQVINJM2904F	IC	S
IC201	PQVINJM2904F	IC	S
IC301	PQVIBA78M08F	IC	S
IC303	PQVIPS3442UT	IC	
IC402	PQVIBU8244F	IC	S
IC601	PQVISC77655V	IC	S
IC701	C2CBFE000008	IC	
IC801	AN6266FA	IC	
IC802	PQVITK14620M	IC	S
		(TRANSISTORS)	
Q101	2SA1625	TRANSISTOR(SI)	S
Q102	2SC2120	TRANSISTOR(SI)	
Q103	2SD601A	TRANSISTOR(SI)	
Q104	2SD601A	TRANSISTOR(SI)	
Q105	2SD1819A	TRANSISTOR(SI)	
Q106	2SD1819A	TRANSISTOR(SI)	
Q110	UN5213	TRANSISTOR(SI)	S
Q111	UN5213	TRANSISTOR(SI)	S
Q201	2SA1625	TRANSISTOR(SI)	S
Q202	2SC2120	TRANSISTOR(SI)	
Q203	2SD1819A	TRANSISTOR(SI)	
Q205	2SD1819A	TRANSISTOR(SI)	
Q207	2SC4645EAN	TRANSISTOR(SI)	S
Q210	UN5213	TRANSISTOR(SI)	S
Q211	UN5213	TRANSISTOR(SI)	S
Q301	2SD1994A	TRANSISTOR(SI)	
Q310	2SD601A	TRANSISTOR(SI)	
Q351	2SD1991A	TRANSISTOR(SI)	
Q352	2SD1994A	TRANSISTOR(SI)	
Q353	2SD601A	TRANSISTOR(SI)	
Q401	2SD1819A	TRANSISTOR(SI)	
Q601	PQVTD143Z106	TRANSISTOR(SI)	S
Q602	PQVTD143Z106	TRANSISTOR(SI)	S
Q603	2SD601A	TRANSISTOR(SI)	
Q605	2SD601A	TRANSISTOR(SI)	
Q606	PQVTD143Z106	TRANSISTOR(SI)	S
Q607	PQVTD143Z106	TRANSISTOR(SI)	S
Q609	PQVTD143Z106	TRANSISTOR(SI)	S
Q612	PQVTD143Z106	TRANSISTOR(SI)	S
Q854	UN5113	TRANSISTOR(SI)	S
Q855	PQVTMSC2295C	TRANSISTOR(SI)	S
		(DIODES)	
D101	PQVDS1ZB60F1	DIODE(SI)	
D102	MA4200	DIODE(SI)	
D105	MA4051	DIODE(SI)	
D107	MA111	DIODE(SI)	
D108	MA111	DIODE(SI)	
D201	PQVDS1ZB60F1	DIODE(SI)	
D202	MA4200	DIODE(SI)	
D203	1SS119	DIODE(SI)	S
D204	1SS119	DIODE(SI)	S
D205	MA4030	DIODE(SI)	

Ref. No.	Part No.	Part Name & Description	Remarks
D302	MA4300	DIODE(SI)	
D303	MA4062	DIODE(SI)	
D304	MA111	DIODE(SI)	
D305	MA111	DIODE(SI)	
D306	MA111	DIODE(SI)	
D307	MA111	DIODE(SI)	
D308	MA111	DIODE(SI)	
D309	MA111	DIODE(SI)	
D310	MA111	DIODE(SI)	
D311	MA111	DIODE(SI)	
D312	MA111	DIODE(SI)	
D313	MA111	DIODE(SI)	
D314	MA111	DIODE(SI)	
D351	MA4300	DIODE(SI)	
D352	MA4300	DIODE(SI)	
D353	MA4300	DIODE(SI)	
D610	MA111	DIODE(SI)	
D804	MA111	DIODE(SI)	
D805	PQVDHVC375	DIODE(SI)	S
D806	MA111	DIODE(SI)	
D810	MA111	DIODE(SI)	
D811	MA111	DIODE(SI)	
D900	MA111	DIODE(SI)	
		(LEDS)	
LED1	PQVDEL1921SR	LED	
LED2	PQVDSML310MT	LED	S
LED3	PQVDEL1921SR	LED	
LED4	PQVDEL1921SR	LED	
		(CERAMIC FILTERS)	
CF801	PQVFCFS107MT	CERAMIC FILTER	
CF802	J0B4553A0059	CERAMIC FILTER	
		(COILS)	
L101	PQLQXF330K	COIL	S
L102	PQLQXF330K	COIL	S
L201	PQLQXF330K	COIL	S
L202	PQLQXF330K	COIL	S
L301	PQLQXF100K	COIL	S
L302	PQLQXF100K	COIL	S
L351	PQLQZM3R3K	COIL	S
L352	PQLQZM330K	COIL	S
L353	PQLQZM3R3K	COIL	S
L801	PQLQZK1R0K	COIL	S
T801	PQL04B002	COIL	
T851	PQL04B001	COIL	
T892	PQLA7A9	COIL	
		(CONNECTORS)	
CN101	PQJJ2H004Z	JACK/SOCKET	S
CN201	PQJJ1T020Z	JACK/SOCKET	
CN352	PQJP03B70Z	CONNECTOR	S
		(CRYSTAL OSCILLATORS)	
X701	PQVCK7952N4Z	CRYSTAL OSCILLATOR	S
X801	H0D102500025	CRYSTAL OSCILLATOR	
		(DUPLEXES)	
DUP801	ELB6A004	DUPLEX	

Ref. No.	Part No.	Part Name & Description	Remarks
DUP802	ELB6F026	DUPLEX	
		(SURGE ABSORBERS)	
SA101	PQVDDSS301L	SURGE ABSORBER	S
SA102	PQVDDSS301L	SURGE ABSORBER	S
SA201	PQVDDSS301L	SURGE ABSORBER	S
SA202	PQVDDSS301L	SURGE ABSORBER	S
		(VARIABLE RESISTORS)	
VR101	EVN5ESX50B54	VARIABLE RESISTOR	S
VR102	EVN5ESX50B54	VARIABLE RESISTOR	S
VR801	EVN5ESX50B54	VARIABLE RESISTOR	S
VR802	EVN5ESX50B24	VARIABLE RESISTOR	S
		(OTHERS)	
E1	PQJM122Z	MICROPHONE	
E2	PQMG10023Z	CUSHION RUBBER, MIC	
PC101	PQVITLP627	PHOTO ELECTRIC TRANSDUCER	S
PC102	0N3181	PHOTO ELECTRIC TRANSDUCER	
PC103	PQVIQCPL0460	PHOTO ELECTRIC TRANSDUCER	S ⚠
PC104	PQVIQCPL0460	PHOTO ELECTRIC TRANSDUCER	S ⚠
PC201	PQVITLP627	PHOTO ELECTRIC TRANSDUCER	S
PC202	0N3181	PHOTO ELECTRIC TRANSDUCER	
POS101	PQRPAR390N	POSISTOR	S
POS201	PQRPAR390N	POSISTOR	S
		(RESISTORS)	
R101	PQ4R10XJ106	10M	S
R102	PQ4R10XJ106	10M	S
R103	ERJ3GEYJ104	100k	
R104	PQ4R10XJ472	4.7k	S
R105	ERJ3GEYJ472	4.7k	
R106	PQ4R10XJ102	1k	S
R107	PQ4R10XJ103	10k	S
R108	PQ4R10XJ330	33	S
R109	ERJ3GEYJ183	18k	
R110	ERDS1TJ150	15	S
R111	ERJ3GEYJ102	1k	
R113	ERJ3GEYJ824	820k	
R114	ERJ3GEYJ102	1k	
R115	ERJ3GEYJ272	2.7k	
R116	ERJ3GEYJ470	47	
R117	ERJ3GEYJ222	2.2k	
R119	ERJ3GEYJ221	220	
R120	ERJ3GEYJ123	12k	
R122	ERDS1TJ220	22	S
R123	PQ4R10XJ473	47k	S
R125	ERJ3GEYJ183	18k	
R126	ERJ3GEYJ102	1k	
R127	ERJ3GEYJ102	1k	
R128	ERJ3GEYJ272	2.7k	
R129	ERJ3GEYJ394	390k	
R130	ERJ3GEYJ681	680	
R131	ERJ3GEYJ103	10k	
R132	ERJ3GEYJ153	15k	
R133	ERJ3GEYJ222	2.2k	
R134	ERJ3GEYJ101	100	
R138	ERJ3GEYJ102	1k	

[illegible]	[illegible]	[illegible]	

Ref. No.	Part No.	Part Name & Description	Remarks
R139	ERJ3GEYJ101	100	
R150	ERJ3GEYJ102	1k	
R151	ERJ3GEYJ393	39k	
R152	ERJ3GEYJ122	1.2k	
R153	ERJ3GEYJ273	27k	
R154	ERJ3GEYJ104	100k	
R155	ERJ3GEYJ824	820k	
R156	ERJ3GEYJ824	820k	
R157	ERJ3GEYJ103	10k	
R158	ERJ3GEYJ183	18k	
R159	ERJ3GEYJ683	68k	
R161	PQ4R10XJ825	8.2M	S
R162	PQ4R10XJ825	8.2M	S
R201	PQ4R10XJ106	10M	S
R202	PQ4R10XJ106	10M	S
R203	PQ4R10XJ472	4.7k	S
R204	ERJ3GEYJ104	100k	
R205	ERJ3GEYJ472	4.7k	
R206	PQ4R10XJ102	1k	S
R207	PQ4R10XJ103	10k	S
R208	PQ4R10XJ330	33	S
R209	ERJ3GEYJ393	39k	
R210	ERJ3GEYJ272	2.7k	
R211	ERJ3GEYJ102	1k	
R212	ERDS1TJ150	15	S
R213	ERDS1TJ220	22	S
R214	PQ4R10XJ473	47k	S
R216	PQ4R10XJ104	100k	S
R217	ERJ3GEYJ183	18k	
R222	ERJ3GEYJ102	1k	
R231	ERJ3GEYJ102	1k	
R232	ERJ3GEYJ272	2.7k	
R233	ERJ3GEYJ474	470k	
R235	ERJ3GEYJ101	100	
R236	ERJ3GEYJ471	470	
R246	ERJ3GEYJ394	390k	
R248	ERJ3GEYJ221	220	
R252	ERJ3GEYJ104	100k	
R253	ERJ3GEYJ824	820k	
R254	ERJ3GEYJ824	820k	
R255	ERJ3GEYJ103	10k	
R256	ERJ3GEYJ273	27k	
R257	ERJ3GEYJ683	68k	
R258	PQ4R10XJ825	8.2M	S
R259	PQ4R10XJ825	8.2M	S
R260	ERJ3GEYJ102	1k	
R261	ERJ3GEYJ393	39k	
R262	ERJ3GEYJ122	1.2k	
R263	ERJ3GEYJ183	18k	
R302	ERDS2TJ271	270	
R310	ERJ3GEYJ104	100k	
R311	ERJ3GEYJ104	100k	
R313	ERJ3GEYJ104	100k	
R314	ERJ3GEYJ104	100k	

Ref. No.	Part No.	Part Name & Description	Remarks
R315	ERJ3GEYJ104	100k	
R316	ERJ3GEYJ102	1k	
R351	ERJ3GEYJ473	47k	
R352	ERDS2TJ122	1.2k	
R354	PQ4R10XJ101	100	S
R355	PQ4R10XJ560	56	S
R357	ERJ3GEYJ103	10k	
R358	ERJ3GEYJ391	390	
R359	PQ4R10XJ473	47k	S
R360	ERJ3GEYJ103	10k	
R361	ERJ3GEYJ104	100k	
R362	ERJ3GEYJ104	100k	
R364	ERJ3GEYJ102	1k	
R441	ERJ3GEYJ472	4.7k	
R442	ERJ3GEY0R00	0	
R443	ERJ3GEYJ272	2.7k	
R444	ERJ3GEYJ184	180k	
R445	ERJ3GEYJ564	560k	
R446	ERJ3GEYJ104	100k	
R447	ERJ3GEYJ332	3.3k	
R448	ERJ3GEYJ221	220	
R451	ERJ3GEYJ332	3.3k	
R454	ERJ3GEYJ123	12k	
R455	ERJ3GEYJ332	3.3k	
R456	ERJ3GEYJ332	3.3k	
R457	ERJ3GEYJ100	10	
R458	ERJ3GEYJ103	10k	
R459	ERJ3GEYJ103	10k	
R600	ERJ3GEYJ392	3.9k	
R601	ERJ3GEYJ562	5.6k	
R602	ERJ3GEYJ303	30k	
R603	ERJ3GEYJ683	68k	
R604	ERJ3GEYJ122	1.2k	
R605	ERJ3GEYJ225	2.2M	
R606	ERJ3GEYJ275	2.7M	
R607	ERJ3GEYJ104	100k	
R608	ERJ3GEYJ472	4.7k	
R609	ERJ3GEYJ222	2.2k	
R610	ERJ3GEYJ183	18k	
R611	ERJ3GEYJ332	3.3k	
R612	ERJ3GEYJ104	100k	
R613	ERJ3GEYJ472	4.7k	
R615	ERJ3GEYJ104	100k	
R616	PQ4R10XJ100	10	S
R617	ERJ3GEYJ104	100k	
R618	ERJ3GEYJ123	12k	
R620	ERJ3GEYJ223	22k	
R623	ERJ3GEYJ472	4.7k	
R624	ERJ3GEYJ824	820k	
R625	ERJ3GEYJ561	560	
R626	ERJ3GEYJ123	12k	
R627	ERJ3GEYJ683	68k	
R628	ERJ3GEYJ391	390	
R629	ERJ3GEYJ824	820k	

Ref. No.	Part No.	Part Name & Description	Remarks
R630	ERJ3GEYJ392	3.9k	
R631	ERJ3GEYJ224	220k	
R632	ERJ3GEYJ224	220k	
R638	ERJ3GEYJ473	47k	
R639	ERJ3GEYJ393	39k	
R641	ERJ3GEYJ104	100k	
R642	ERJ3GEYJ334	330k	
R643	ERJ3GEYJ104	100k	
R645	ERJ3GEYJ563	56k	
R646	ERJ3GEYJ333	33k	
R651	ERJ3GEYJ103	10k	
R652	ERJ3GEYJ103	10k	
R653	ERJ3GEYJ473	47k	
R655	ERJ3GEYJ223	22k	
R658	ERJ3GEYJ153	15k	
R659	ERJ3GEYJ123	12k	
R660	ERJ3GEYJ333	33k	
R661	ERJ3GEYJ104	100k	
R701	ERJ3GEYJ183	18k	
R702	ERJ3GEYJ153	15k	
R703	ERJ3GEYJ124	120k	
R704	ERJ3GEYJ563	56k	
R705	ERJ3GEYJ273	27k	
R706	ERJ3GEYJ153	15k	
R707	ERJ3GEYJ683	68k	
R708	ERJ3GEYJ104	100k	
R710	ERJ3GEYJ472	4.7k	
R711	ERJ3GEYJ472	4.7k	
R712	ERJ3GEYJ104	100k	
R721	ERJ3GEYJ471	470	
R722	ERJ3GEYJ471	470	
R723	ERJ3GEYJ471	470	
R724	ERJ3GEYJ471	470	
R725	ERJ3GEYJ100	10	
R802	ERJ3GEYJ331	330	
R804	ERJ3GEYJ394	390k	
R805	ERJ3GEYJ223	22k	
R806	ERJ3GEYJ103	10k	
R807	ERJ3GEYJ103	10k	
R808	ERJ3GEYJ333	33k	
R809	ERJ3GEYJ153	15k	
R810	ERJ3GEY0R00	0	
R811	ERJ3GEYJ223	22k	
R812	ERJ3GEYJ105	1M	
R815	ERJ3GEYJ473	47k	
R817	ERJ3GEYJ123	12k	
R818	ERJ3GEYJ154	150k	
R819	ERJ3GEYJ183	18k	
R820	ERJ3GEYJ682	6.8k	
R821	ERJ3GEYJ103	10k	
R822	ERJ3GEYJ222	2.2k	
R824	ERJ3GEYJ103	10k	
R825	ERJ3GEYJ681	680	
R826	ERJ3GEYJ152	1.5k	

Ref. No.	Part No.	Part Name & Description	Remarks
R851	ERJ3GEYJ103	10k	
R852	ERJ3GEYJ154	150k	
R853	ERJ3GEYJ563	56k	
R854	ERJ3GEYJ274	270k	
R855	ERJ3GEYJ564	560k	
R856	ERJ3GEYJ223	22k	
R857	ERJ3GEYJ104	100k	
R858	ERJ3GEYJ102	1k	
R859	ERJ3GEYJ220	22	
R860	PQ4R10XJ470	47	S
R861	ERJ3GEYJ123	12k	
R862	ERJ3GEYJ101	100	
R864	ERJ3GEYJ101	100	
R881	ERJ3GEYJ680	68	
R884	ERJ3GEYJ222	2.2k	
R885	ERJ3GEYJ103	10k	
R887	ERJ3GEYJ100	10	
		(CAPACITORS)	
C102	PQCUV1H103KB	0.01	
C103	ECKD2H681KB	680P	S
C104	ECKD2H681KB	680P	S
C105	ECUV1H821KBV	820P	
C106	ECUV1H101JCV	100P	
C108	ECUV1E223KBV	0.022	
C109	ECEA1EU470	47	S
C110	ECEA1HKA010	1	
C111	ECEA1HKA010	1	
C112	ECEA0JU331	330	
C113	ECUV1C104ZFV	0.1	
C114	ECUV1H151JCV	150P	
C115	ECUV1C104KBV	0.1	
C117	ECUV1H562KBV	0.0056	
C118	ECQE2224KF	0.22	
C119	ECUV1H103KBV	0.01	
C120	ECUV1C473KBV	0.047	
C121	ECEA1AU221	220	
C122	ECUV1H101JCV	100P	
C123	ECUV1H222KBV	0.0022	
C124	ECUV1C104KBV	0.1	
C125	ECEA1CKA100	10	
C150	ECUV1C104KBV	0.1	
C151	ECUV1C104KBV	0.1	
C154	ECUV1C104KBV	0.1	
C155	ECUV1H220JCV	22P	
C202	PQCUV1H103KB	0.01	
C203	ECKD2H681KB	680P	S
C204	ECKD2H681KB	680P	S
C205	ECUV1H101JCV	100P	
C207	ECUV1E223KBV	0.022	
C208	ECEA1CKA470	47	
C209	ECEA1HKA010	1	
C210	ECEA1HKA010	1	
C211	ECEA0JU331	330	
C212	ECUV1E333KBV	0.033	

Ref. No.	Part No.	Part Name & Description	Remarks
C214	ECEA1CKA100	10	
C215	ECQE2224KF	0.22	
C216	ECUV1C273KBV	0.027	
C217	ECUV1H151JCV	150P	
C220	ECUV1H562KBV	0.0056	
C221	ECEA1AU221	220	
C222	ECUV1H151JCV	150P	
C233	ECUV1H222KBV	0.0022	
C250	ECUV1C104KBV	0.1	
C251	ECUV1C104KBV	0.1	
C253	ECUV1C104KBV	0.1	
C254	ECUV1H220JCV	22P	
C303	ECUV1C104ZFV	0.1	
C304	ECEA1EKA100	10	
C305	ECEA1CKA221	220	
C306	ECEA0JKA331	330	
C307	ECEA1CKA221	220	
C308	ECUV1C104ZFV	0.1	
C309	ECEA1AU101	100	
C310	ECEA0JU102	1000	
C311	ECUV1H103KBV	0.01	
C312	ECUV1H102KBV	0.001	
C313	ECUV1A224KBV	0.22	
C355	ECUV1H102KBV	0.001	
C357	ECUV1C104ZFV	0.1	
C401	ECEA1EU470	47	S
C402	ECEA1EU470	47	S
C403	ECUV1H103KBV	0.01	
C404	ECUV1H101JCV	100P	
C405	ECUV1C273KBV	0.027	
C406	ECUV1A224KBV	0.22	
C407	ECUV1C104KBV	0.1	
C408	ECUV1H472KBV	0.0047	
C409	ECUV1C104KBV	0.1	
C410	ECUV1C104KBV	0.1	
C600	ECUV1C104KBV	0.1	
C601	ECUV1C104KBV	0.1	
C602	ECUV1C473KBV	0.047	
C603	ECUV1C393KBV	0.039	
C606	PQCUV1C105KB	1	
C607	PQCUV1C105KB	1	
C608	ECEA1CKS470	47	S
C609	ECEA1HKS4R7	4.7	S
C610	ECUV1C683KBV	0.068	
C611	ECUV1C104KBV	0.1	
C612	ECUV1C473KBV	0.047	
C613	ECEA1CKA100	10	
C614	ECUV1E223KBV	0.022	
C615	ECEA1HKS4R7	4.7	S
C616	ECEA0JKS470	47	
C617	ECEA1AU221	220	
C618	PQCUV1C105KB	1	
C619	ECUV1A105ZFV	1	
C620	ECEA1AKA101	100	

Ref. No.	Part No.	Part Name & Description	Remarks
C621	ECEA1CU471	470	
C622	ECUV1E333KBV	0.033	
C623	ECUV1H122KBV	0.0012	
C624	ECUV1H103KBV	0.01	
C625	ECUV1H103KBV	0.01	
C626	ECUV1H103KBV	0.01	
C627	ECUV1C104KBV	0.1	
C628	ECUV1H331JCV	330P	
C629	ECUV1H103KBV	0.01	
C630	ECUV1H102KBV	0.001	
C632	PQCUV1C104KB	0.1	
C633	ECUV1C104KBV	0.1	
C635	ECUV1H103KBV	0.01	
C641	ECUV1C104KBV	0.1	
C642	ECUV1H183KBV	0.018	
C643	ECUV1C104KBV	0.1	
C645	ECUV1C104KBV	0.1	
C651	ECUV1H103KBV	0.01	
C652	ECUV1H103KBV	0.01	
C653	ECUV1H103KBV	0.01	
C654	ECUV1H102KBV	0.001	
C656	ECUV1H103KBV	0.01	
C657	ECUV1C104KBV	0.1	
C658	ECUV1H102KBV	0.001	
C701	ECEA1AU221	220	
C702	ECUV1H220JCV	22P	
C703	ECUV1H220JCV	22P	
C704	ECEA0JU102	1000	
C705	ECUV1C104ZFV	0.1	
C706	ECUV1C104ZFV	0.1	
C707	ECUV1C104ZFV	0.1	
C801	ECUV1C104ZFV	0.1	
C802	ECUV1H103KBV	0.01	
C804	ECUV1C104KBV	0.1	
C805	ECUV1C104ZFV	0.1	
C806	ECUV1C104KBV	0.1	
C807	ECUV1C104KBV	0.1	
C808	ECEA1CKA100	10	
C809	ECUV1C104ZFV	0.1	
C810	ECUV1H680JCV	68P	
C811	ECUV1C104KBV	0.1	
C812	ECUV1H121JCV	120P	
C813	ECUV1H121JCV	120P	
C814	ECUV1C104KBV	0.1	
C815	ECUV1C104KBV	0.1	
C816	ECUV1H472KBV	0.0047	
C818	ECUV1H152KBV	0.0015	
C819	ECUV1C104KBV	0.1	
C820	ECUV1C683KBV	0.068	
C821	ECUV1C473KBV	0.047	
C822	ECUV1C104KBV	0.1	
C823	ECUV1E223KBV	0.022	
C824	ECUV1H391JCV	390P	
C825	ECUV1H681JCV	680P	S

Ref. No.	Part No.	Part Name & Description	Remarks
C826	ECUV1C104ZFV	0.1	
C827	ECEA1EU470	47	S
C828	ECUV1E333KBV	0.033	
C829	ECUV1C104ZFV	0.1	
C830	ECUV1H101JCV	100P	
C831	ECUV1C104KBV	0.1	
C832	ECUV1H152KBV	0.0015	
C833	ECUV1H151JCV	150P	
C834	ECUV1C104KBV	0.1	
C835	ECUV1H430GCV	43P	
C836	ECUV1H270GCV	27P	
C837	ECUV1H103KBV	0.01	
C838	ECEA1CKA100	10	
C839	ECEA1HKS4R7	4.7	S
C840	ECUV1A224KBV	0.22	
C841	ECUV1H180JCV	18P	
C842	ECUV1H103KBV	0.01	
C843	ECUV1H103KBV	0.01	
C844	ECUV1C104KBV	0.1	
C845	ECUV1C104KBV	0.1	
C851	ECUV1C563KBV	0.056	
C852	ECUV1C104KBV	0.1	
C853	ECUV1C104KBV	0.1	
C854	ECUV1H102KBV	0.001	
C856	ECUV1C104ZFV	0.1	
C857	ECUV1H150JCV	15P	
C858	ECUV1H681JCV	680P	S
C859	ECUV1H330JCV	33P	
C860	ECUV1H103KBV	0.01	
C861	ECUV1H103KBV	0.01	
C862	ECUV1H103KBV	0.01	
C863	ECUV1H220JCV	22P	
C864	ECEA1HU4R7	4.7	
C865	ECUV1H103KBV	0.01	
C867	ECUV1H103KBV	0.01	
C869	ECUV1H103KBV	0.01	
C870	ECKERS102MB	0.001	⚠

27.2. Handset

27.2.1. CABINET AND ELECTRICAL PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
101	PQAX3P27Z	RECEIVER	
102	PQFJ4Z	EARTH TERMINAL	
103	PQGT14932Z	NAME LABEL	
104	PQHG10527Y	SHEET, RUBBER	
105	PQHR10639Z	SP HOLDER	
106	PQHR10640W	LED LENSE	
107	PQJT10150Z	CHARGE TERMINAL	
108	PQKF10277S1	REAR CABINET	S
109	PQKK10089Z1	BATTERY COVER	S
110	PQKM10435PG	FRONT CABINET	S
111	PQMH10372Z	WEIGHT	
112	PQSA10091Z	ANTENNA	
113	PQSX10092G	RUBBER SWITCH, 12 KEY	
114	PQXA36ASVC	BATTERY	S
115	PQHX11117Z	SHEET PET, BATERY	

27.2.2. MAIN P.C.BOARD PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
PCB100	PQWPC1085BXR	MAIN P.C.BOARD ASS'Y (RTL)	
		(ICS)	
IC101	AN6265FA	IC	
IC301	PQVITK14620M	IC	S
IC901	C2BBFD000338	IC	
		(TRANSISTORS)	
Q501	2SD601A	TRANSISTOR(SI)	
Q502	2SD601A	TRANSISTOR(SI)	
Q910	PQVT143XK146	TRANSISTOR(SI)	S
Q911	PQVTD123T146	TRANSISTOR(SI)	S
Q912	PQVTD123T146	TRANSISTOR(SI)	S
Q913	PQVTD123T146	TRANSISTOR(SI)	S
Q914	PQVTDTC143E	TRANSISTOR(SI)	S
		(DIODES)	
D501	PQVDS5688G	DIODE(SI)	S
D901	PQVDHRU0203A	DIODE(SI)	S
VD301	MA2SV01001KU	DIODE(SI)	
C506	MA8056H	DIODE(SI)	
		(LEDS)	
LED901	PQVDSML310MT	LED	S
LED902	PQVDEL1921SR	LED	
LED903	PQVDEL1921SR	LED	
LED904	PQVDEL1921SR	LED	
LED911	PQVDSML310MT	LED	S
LED912	PQVDSML310MT	LED	S
LED913	PQVDSML310MT	LED	S
LED914	PQVDSML310MT	LED	S
		(CERAMIC FILTERS)	
CF1	PQVFCFS107MT	CERAMIC FILTER	
CF2	J0B4553A0059	CERAMIC FILTER	
		(COILS)	
L301	PQLQZK1R8K	COIL	S
L502	PQLQZM220K	COIL	S
L503	PQLQR3ER10K	COIL	S

Ref. No.	Part No.	Part Name & Description	Remarks
L504	PQLQZM1R0K	COIL	S
L901	PQLQZMR68M	COIL	S
T201	PQL04B003	COIL	
T301	PQL04B004	COIL	
		(CRYSTAL OSCILLATORS)	
X101	H0D102500025	CRYSTAL OSCILLATOR	
X102	PQVCJ3991N9Z	CRYSTAL OSCILLATOR	
X901	PQVCL3276N9Z	CRYSTAL OSCILLATOR	S
		(DUPLEXES)	
DUP101	ELB6A002	DUPLEX	
DUP301	ELB6A001	DUPLEX	
		(RESISOTOR ARRAYS)	
RA901	EXRV8V331JV	RESISOTOR ARRAY	S
RA902	EXRV8V222JV	RESISOTOR ARRAY	S
		(OTHERS)	
CN1	PQJP2D13Z	CONNECTOR	S
E101	PQEFBDB111GF	RINGER	
E102	PQJM122Z	MICROPHONE	
JT-	PQJT10152Z	CHARGE TERMINAL	
JT+	PQJT10152Z	CHARGE TERMINAL	
JTC	PQJT10152Z	CHARGE TERMINAL	
VR201	PQZ3AN33N	VARIABLE RESISTOR	S
		(RESISTORS)	
R101	ERJ3GEYJ220	22	
R102	ERJ3GEY0R00	0	
R104	ERJ3GEYJ331	330	
R106	ERJ3GEY0R00	0	
R120	ERJ3GEYJ223	22k	
R121	ERJ3GEYJ394	390k	
R122	ERJ3GEYJ392	3.9k	
R123	ERJ3GEYJ562	5.6k	
R124	ERJ3GEYJ393	39k	
R125	ERJ3GEYJ823	82k	
R126	ERJ3GEYJ103	10k	
R127	ERJ3GEY0R00	0	
R129	ERJ3GEYJ683	68k	
R130	ERJ3GEYJ683	68k	
R140	ERJ3GEYJ223	22k	
R151	ERJ3GEYJ102	1k	
R152	ERJ3GEYJ822	8.2k	
R153	ERJ3GEYJ103	10k	
R201	ERJ3GEYJ103	10k	
R202	ERJ3GEYJ222	2.2k	
R203	ERJ3GEYJ224	220k	
R204	ERJ3GEYJ223	22k	
R205	ERJ3GEYJ222	2.2k	
R221	ERJ3GEYJ333	33k	
R222	ERJ3GEYJ564	560k	
R301	ERJ3GEYJ2R2	2.2	
R302	ERJ3GEYJ220	22	
R307	ERJ3GEYJ220	22	
R321	ERJ3GEYJ102	1k	
R322	ERJ3GEYJ473	47k	
R323	ERJ3GEYJ393	39k	

Ref. No.	Part No.	Part Name & Description	Remarks
R324	ERJ3GEYJ684	680k	
R351	ERJ3GEYJ472	4.7k	
R352	ERJ3GEYJ333	33k	
R353	ERJ3GEYJ473	47k	
R501	ERJ3GEYJ562	5.6k	
R502	ERJ3GEYJ104	100k	
R503	ERJ3GEYJ562	5.6k	
R505	ERJ3GEYJ472	4.7k	
R506	ERJ3GEYJ103	10k	
R905	ERJ3GEYJ224	220k	
R906	ERJ3GEYJ104	100k	
R907	ERJ3GEYJ104	100k	
R910	ERJ3GEYJ473	47k	
R911	ERJ3GEY0R00	0	
R913	ERJ3GEYJ221	220	
R914	PQ4R10XJ120	12	S
R915	PQ4R10XJ4R7	4.7	S
R921	ERJ3GEYJ331	330	
R922	ERJ3GEYJ681	680	
R923	ERJ3GEYJ681	680	
R924	ERJ3GEYJ681	680	
R925	ERJ3GEYJ222	2.2k	
C100	PQ4R10XJ000	0	S
C301	PQ4R10XJ000	0	S
C314	ERJ3GEYJ391	390	
J100	PQ4R10XJ000	0	S
J101	ERJ3GEY0R00	0	
J102	PQ4R10XJ000	0	S
J103	PQ4R10XJ000	0	S
J111	ERJ3GEY0R00	0	
J302	ERJ3GEY0R00	0	
L101	PQ4R18XJ000	0	S
L501	PQ4R10XJ000	0	S
		(CAPACITORS)	
C101	ECUV1H103KBV	0.01	
C102	ECUV1C104ZFV	0.1	
C103	ECUV1H103KBV	0.01	
C104	ECUV1C104ZFV	0.1	
C106	ECUV1H103KBV	0.01	
C107	ECUV1C104ZFV	0.1	
C108	ECUV1C104ZFV	0.1	
C109	ECUV1H680JCV	68P	
C110	ECEA1AKS330	33	S
C111	ECUV1C104KBV	0.1	
C112	ECUV1C104ZFV	0.1	
C120	ECUV1H121JCV	120P	
C121	ECUV1H121JCV	120P	
C122	ECUV1C104KBV	0.1	
C123	ECUV1C104KBV	0.1	
C124	ECUV1C473KBV	0.047	
C126	ECUV1H152KBV	0.0015	
C127	ECUV1H472KBV	0.0047	
C128	PQCUV1E473MD	0.047	S
C129	ECUV1C104KBV	0.1	

Ref. No.	Part No.	Part Name & Description	Remarks
C130	ECUV1C473KBV	0.047	
C131	PQCUV1C104KB	0.1	
C132	ECUV1H272KBV	0.0027	
C141	ECUV1H270GCV	27P	S
C142	ECUV1H390GCV	39P	S
C150	ECUV1H240JCV	24P	
C151	ECUV1H103KBV	0.01	
C152	PQCUV1C224ZF	0.22	S
C153	ECUV1H103KBV	0.01	
C155	ECEA1CKA100	10	
C156	PQCUV1E473MD	0.047	S
C157	PQCUV1E104MD	0.1	S
C201	PQCUV1H103KB	0.01	
C202	PQCUV1H333JC	0.033	S
C203	ECUV1H101JCV	100P	
C204	ECUV1C104KBV	0.1	
C205	ECUV1H152KBV	0.0015	
C206	ECUV1H151JCV	150P	
C207	PQCUV1C104KB	0.1	
C208	ECUV1C104ZFV	0.1	
C210	ECUV1C104ZFV	0.1	
C211	ECST0JY106	10	
C221	ECUV1C104ZFV	0.1	
C310	PQCUV1E104MD	0.1	S
C311	ECUV1H103KBV	0.01	
C313	ECUV1H103KBV	0.01	
C317	ECUV1H103KBV	0.01	
C321	ECUV1H220JCV	22P	S
C322	ECUV1H150JCV	15P	
C323	ECUV1H681JCV	680P	S
C325	ECUV1H220JCV	22P	
C330	PQCUV1C104KB	0.1	
C331	PQCUV1H103KB	0.01	
C351	PQCUV1C224ZF	0.22	S
C352	ECUV1E223KBV	0.022	
C354	ECUV1H103KBV	0.01	
C505	PQCUV1H103KB	0.01	
C507	PQCUV1H103KB	0.01	
C901	ECEA0JKA221	220	
C903	PQCUV1E104MD	0.1	S
C904	ECUV1C104ZFV	0.1	
C905	PQCUV1C105ZF	1	
C906	PQCUV1C105ZF	1	
C907	PQCUV1H103KB	0.01	
C911	ECUV1H330JCV	33P	
C912	ECUV1H330JCV	33P	
C913	ECUV1H330JCV	33P	
C914	ECUV1H330JCV	33P	
C915	ECST0JY106	10	
C916	ECST0JY106	10	

27.3. ACCESSORIES AND PACKING MATERIALS

Ref. No.	Part No.	Part Name & Description	Remarks
A1	PQJA10088Z	TEL CORD, PLUG	
A2	PQJA10075Z	TEL CORD	
A3	PQLV14BXZ	AC ADAPTOR	⚠
A4	PQQW12520Z	QUICK GUIDE (for Arabic)	
A5	PQQX13214Z	INSTRUCTION BOOK	
A6	PQHX11112Z	PET SHEET	
P1	PQPP170Y	POLY BAG (for Base Unit)	
P2	XZB10X35A02	POLY BAG (for Handset)	
P3	PQPK13545Z	CARTON BOX	
P4	PQPD10440Y	PAD	

28. FOR SCHEMATIC DIAGRAM

28.1. Base Unit (SCHEMATIC DIAGRAM (Base Unit))

Notes:

1. **DC voltage measurements are taken with voltmeter from the negative voltage line.**

> Important Safety Notice:
> Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only the manufacturer's specified parts.

2. **This schematic diagram and circuit board may be modified at any time with the development of new technology.**

28.2. Handset (SCHEMATIC DIAGRAM (Handset))

Notes:

1. **DC voltage measurements are taken with an oscilloscope or a tester with a ground.**
2. **The schematic diagrams and circuit board may be modified at any time with the development of new technology.**

28.3. MEMO

29. SCHEMATIC DIAGRAM

29.1. BASE UNIT

29.2. HANDSET

30. CIRCUIT BOARD (BASE UNIT)

30.1. Component View

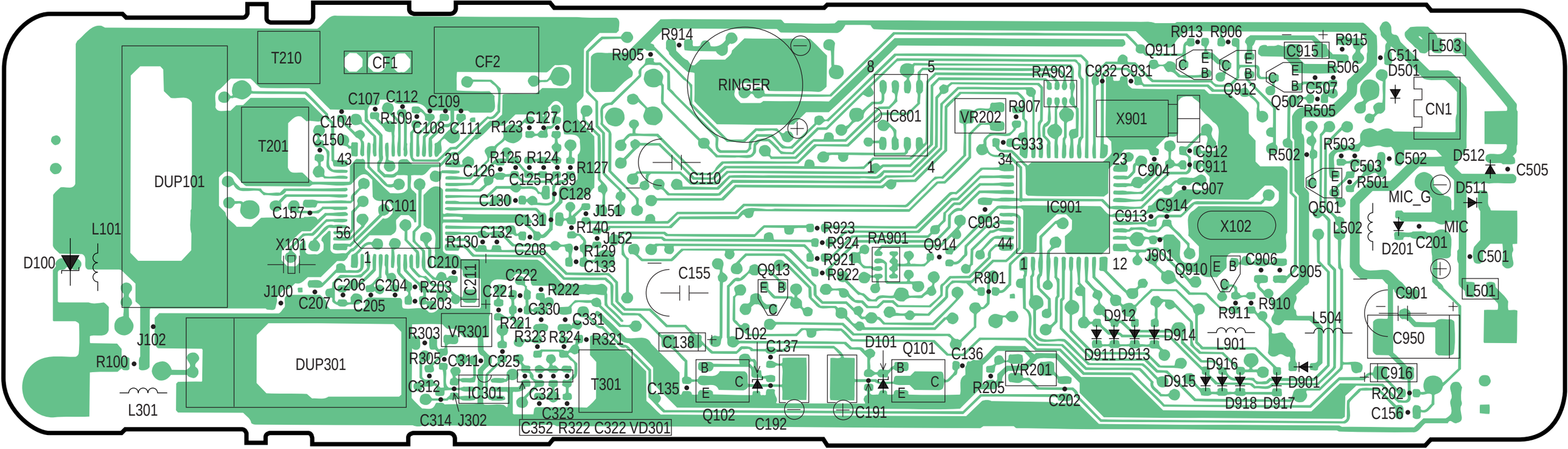
30.2. Flow Solder Side View

31. CIRCUIT BOARD (HANDSET)

31.1. Component View

31.2. Flow Solder Side View

M / KXTC1085BXB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CF1
CF2
T201
DUP101
DUP301
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IC101
IC301
IC901
VR202
VR301
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X901
X102
T301
C107
C112
C109
C104
C150
R109
C108
C111
R123
C127
C124
R125
R124
R127
C126
C125
R139
C128
C130
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J151
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C132
J152
R130
C208
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C133
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C221
R222
C330
C331
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C311
C312
C314
J302
C321
C323
C352
R322
C322
VD301
R914
R905
C110
C155
C138
Q913
Q914
R923
R924
R921
R922
R801
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D102
D101
Q101
C137
C136
Q102
C192
C191
C135
R205
C202
R913
R906
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Q912
C915
R915
C511
L503
D501
CN1
R506
C507
R505
C502
C503
R503
R502
R501
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D201
C501
L502
L501
C901
C950
L504
C916
R202
C156
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C907
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C913
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C933
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C906
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C207
C206
C205
C204
R203
C203
J102
R100
L301
R303
R305
R907
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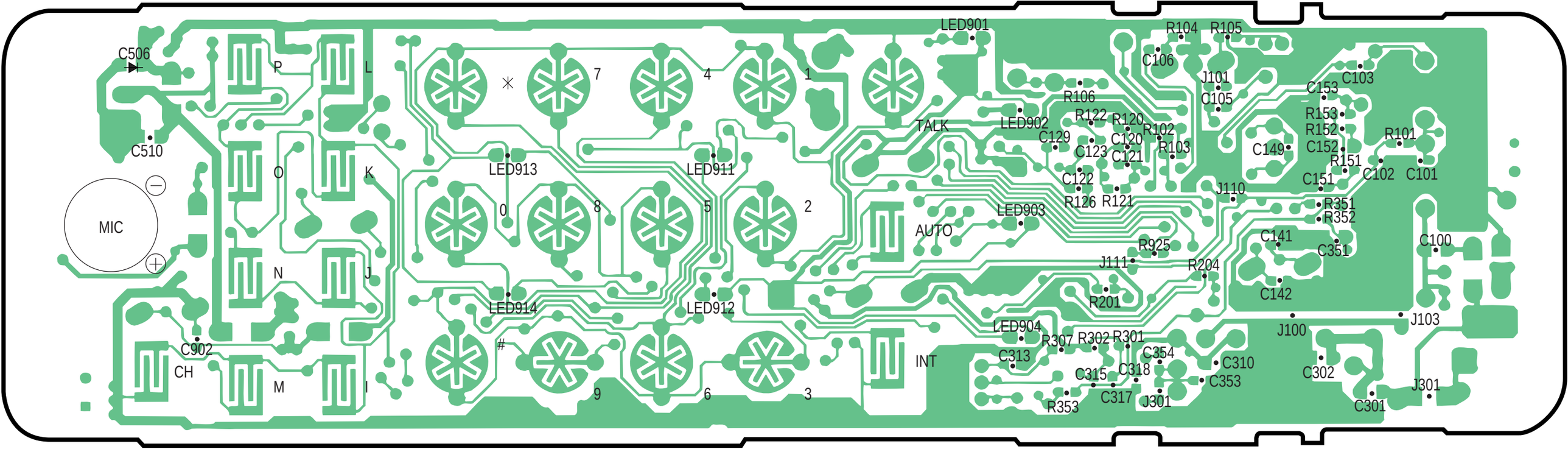
J56


C506
C510
MIC
P
L
O
K
N
J
M
I
CH
C902
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LED912
7
4
1
0
8
5
2
9
6
3
*
#
LED901
TALK
AUTO
INT
LED902
LED903
LED904
R104
R105
C106
J101
C105
C103
C153
R153
R152
R101
C152
R151
C102
C101
C151
C149
R106
R122
R120
R102
C129
C120
R103
C123
C121
C122
R126
R121
J110
R351
R352
C141
C351
C100
R925
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R204
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R201
J103
J100
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C317
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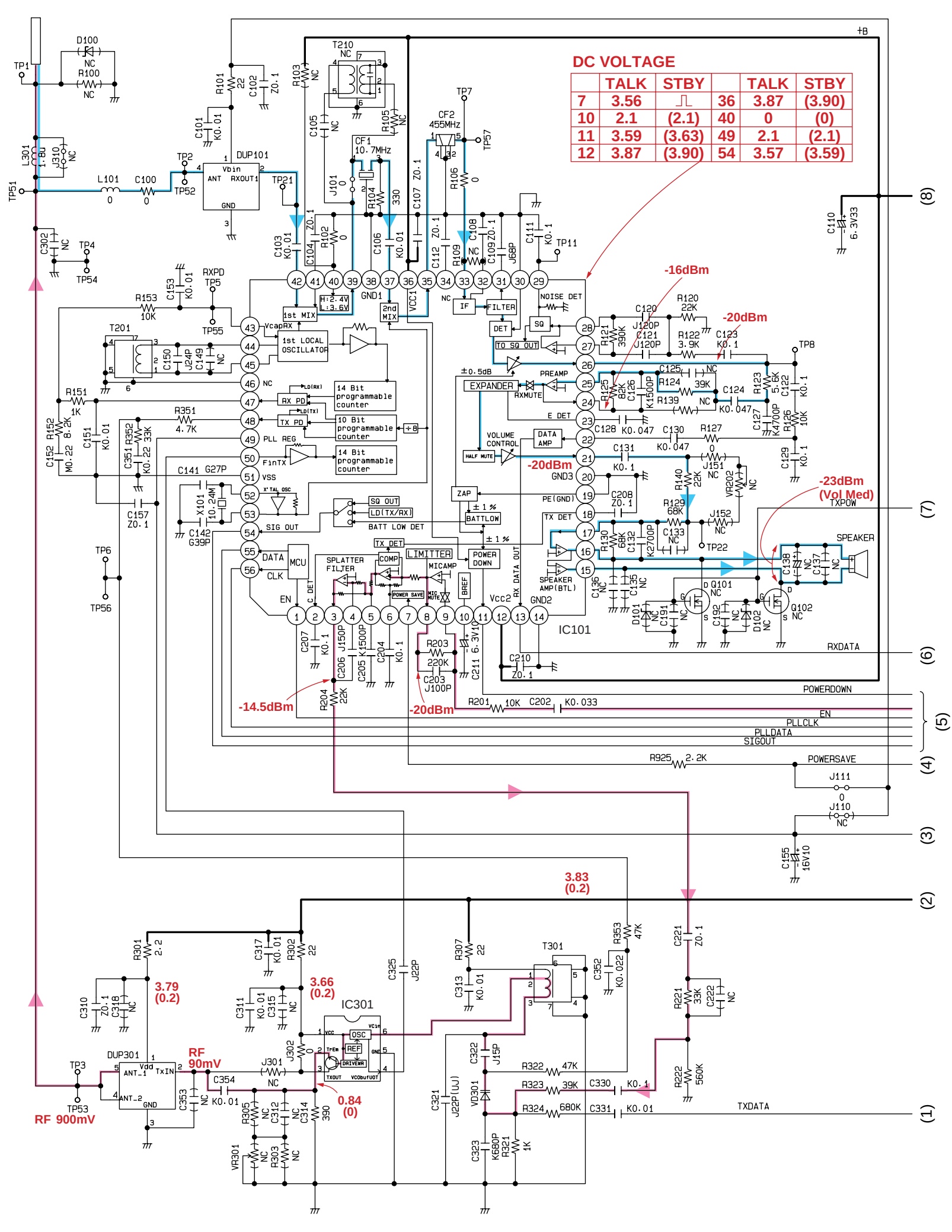
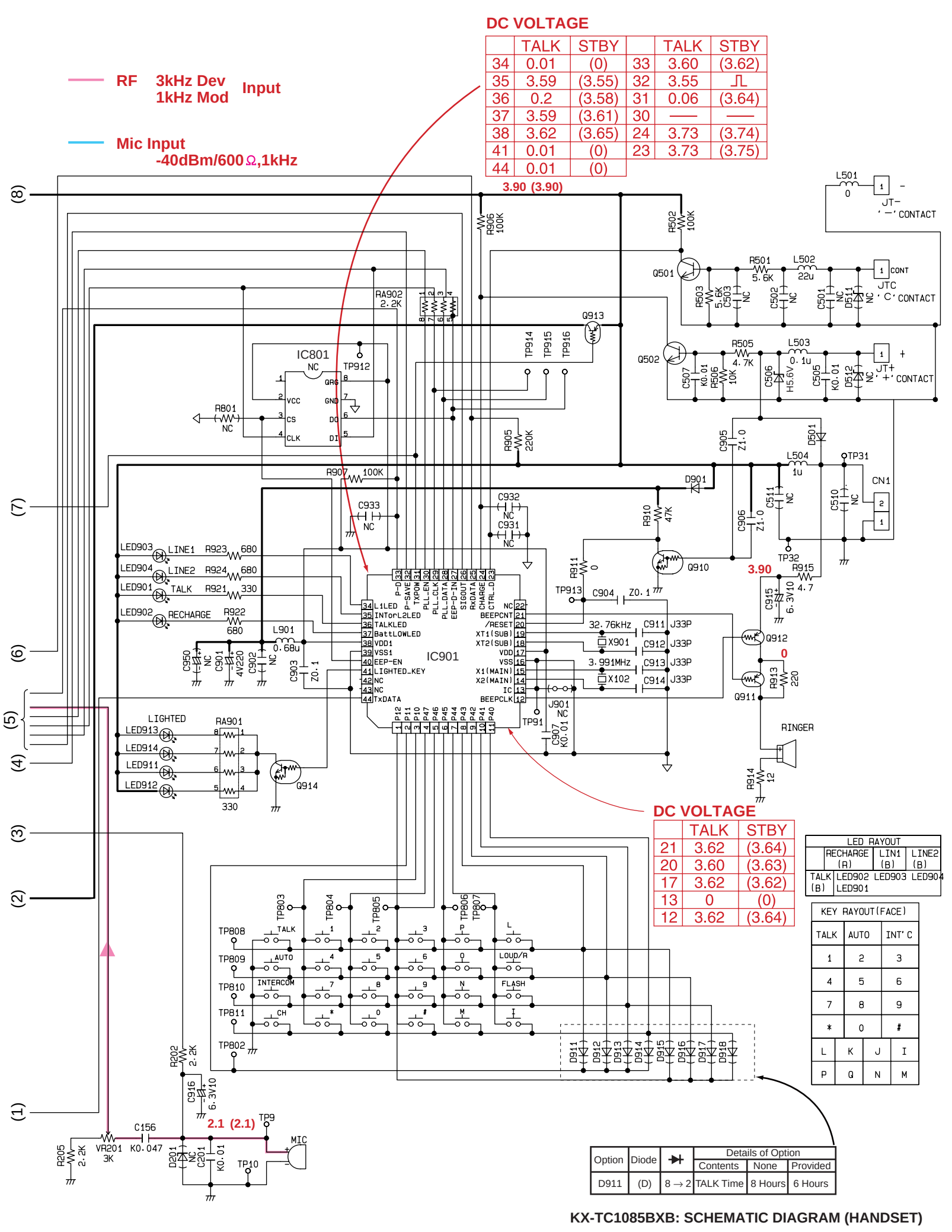
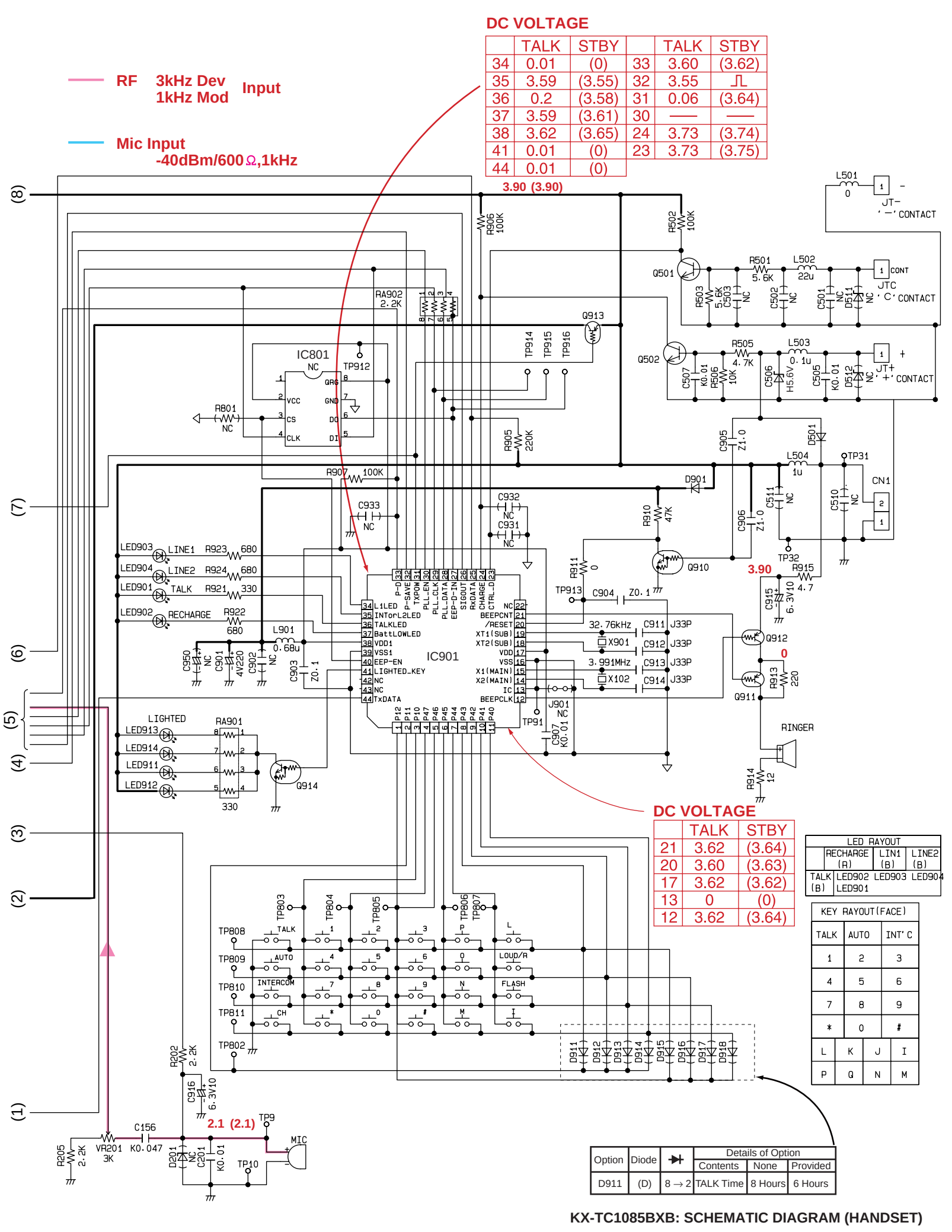
R353

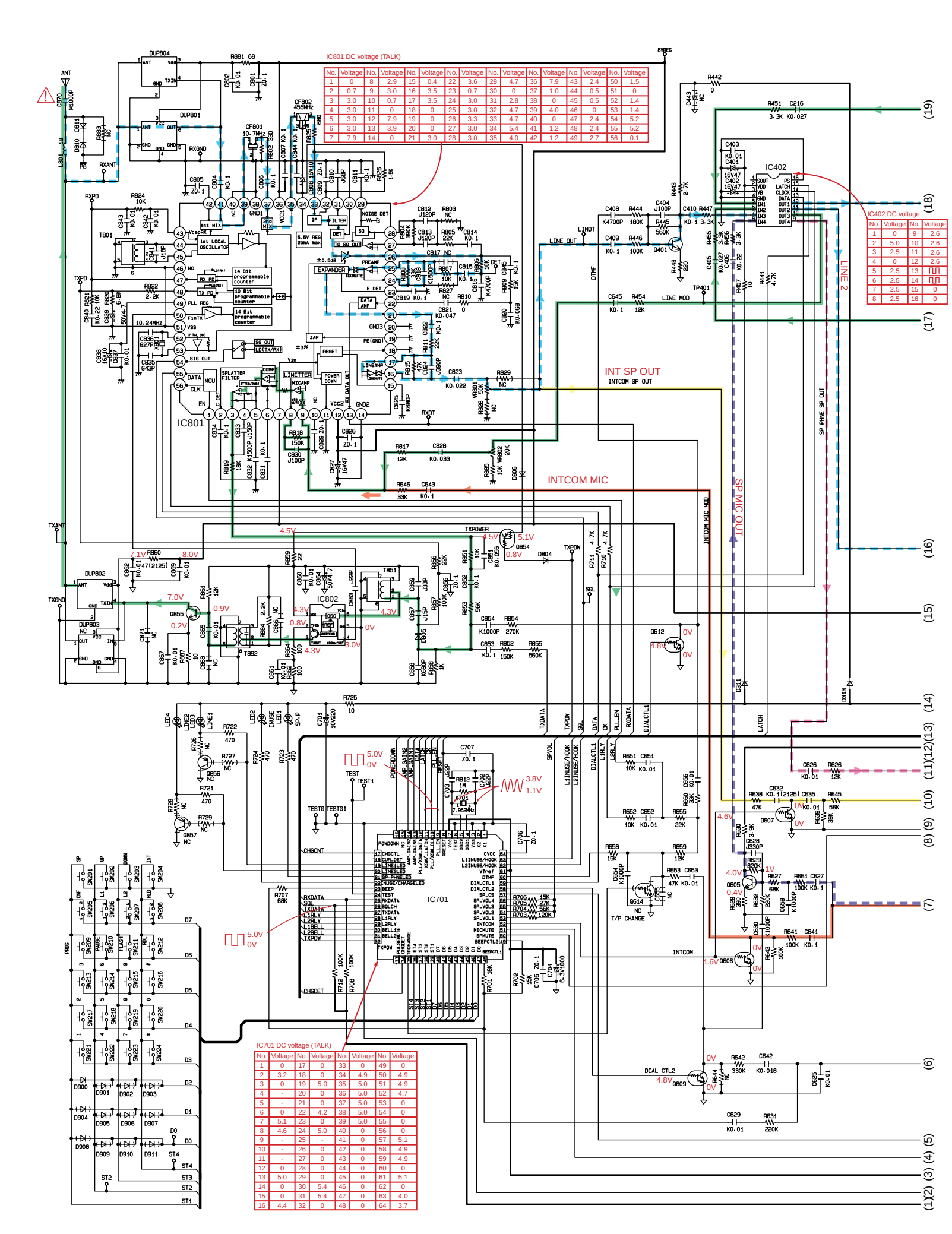

DC VOLTAGE
TALK STBY TALK STBY
7 3.56 ⎍ 36 3.87 (3.90)
10 2.1 (2.1) 40 0 (0)
11 3.59 (3.63) 49 2.1 (2.1)
12 3.87 (3.90) 54 3.57 (3.59)
+B
IC101
IC301
-16dBm
-20dBm
-23dBm (Vol Med)
-14.5dBm
-20dBm
-20dBm
3.83 (0.2)
3.79 (0.2)
3.66 (0.2)
0.84 (0)
RF 90mV
RF 900mV
SPEAKER
TXPOW
RXDATA
POWERDOWN
EN
PLLCLK
PLLDATA
SIGOUT
POWERSAVE
TXDATA
(8)
(7)
(6)
(5)
(4)
(3)
(2)
(1)



KX-TC1085BXB: SCHEMATIC DIAGRAM (HANDSET)



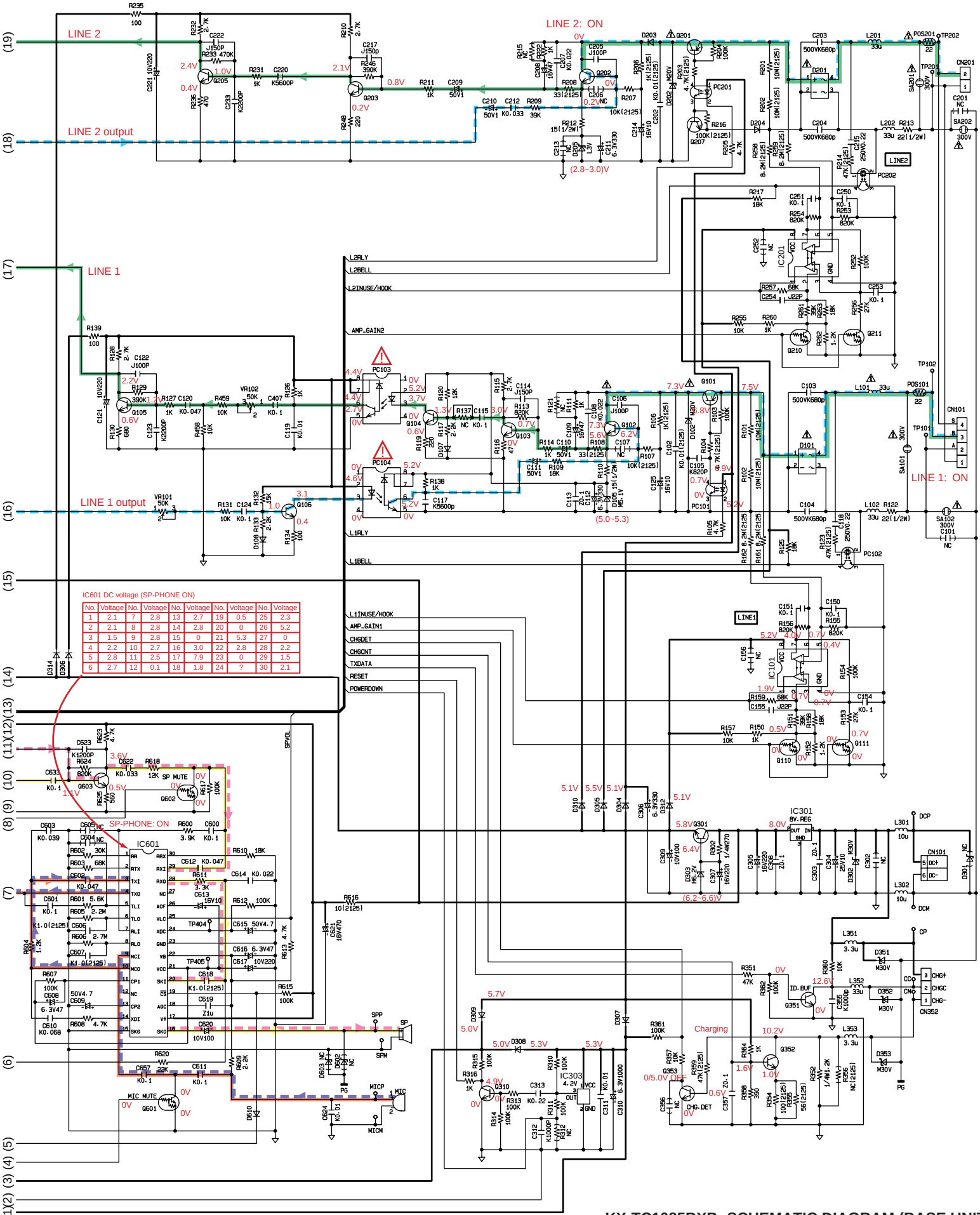
KX-TC1085BXB: SCHEMATIC DIAGRAM (HANDSET)



No.	Voltage	No.	Voltage	No.	Voltage	No.	Voltage	No.	Voltage	No.	Voltage	No.	Voltage	No.	Voltage
1	0	8	2.9	15	0.4	22	3.6	29	4.7	36	7.9	43	2.4	50	1.5
2	0.7	9	3.0	16	3.5	23	0.7	30	0	37	1.0	44	0.5	51	0
3	3.0	10	0.7	17	3.5	24	3.0	31	2.8	38	0	45	0.5	52	1.4
4	3.0	11	0	18	0	25	3.0	32	4.7	39	4.0	46	0	53	1.4
5	3.0	12	7.9	19	0	26	3.3	33	4.7	40	0	47	2.4	54	5.2
6	3.0	13	3.9	20	0	27	3.0	34	5.4	41	1.2	48	2.4	55	5.2
7	7.9	14	0	21	3.0	28	3.0	35	4.0	42	1.2	49	2.7	56	0.1

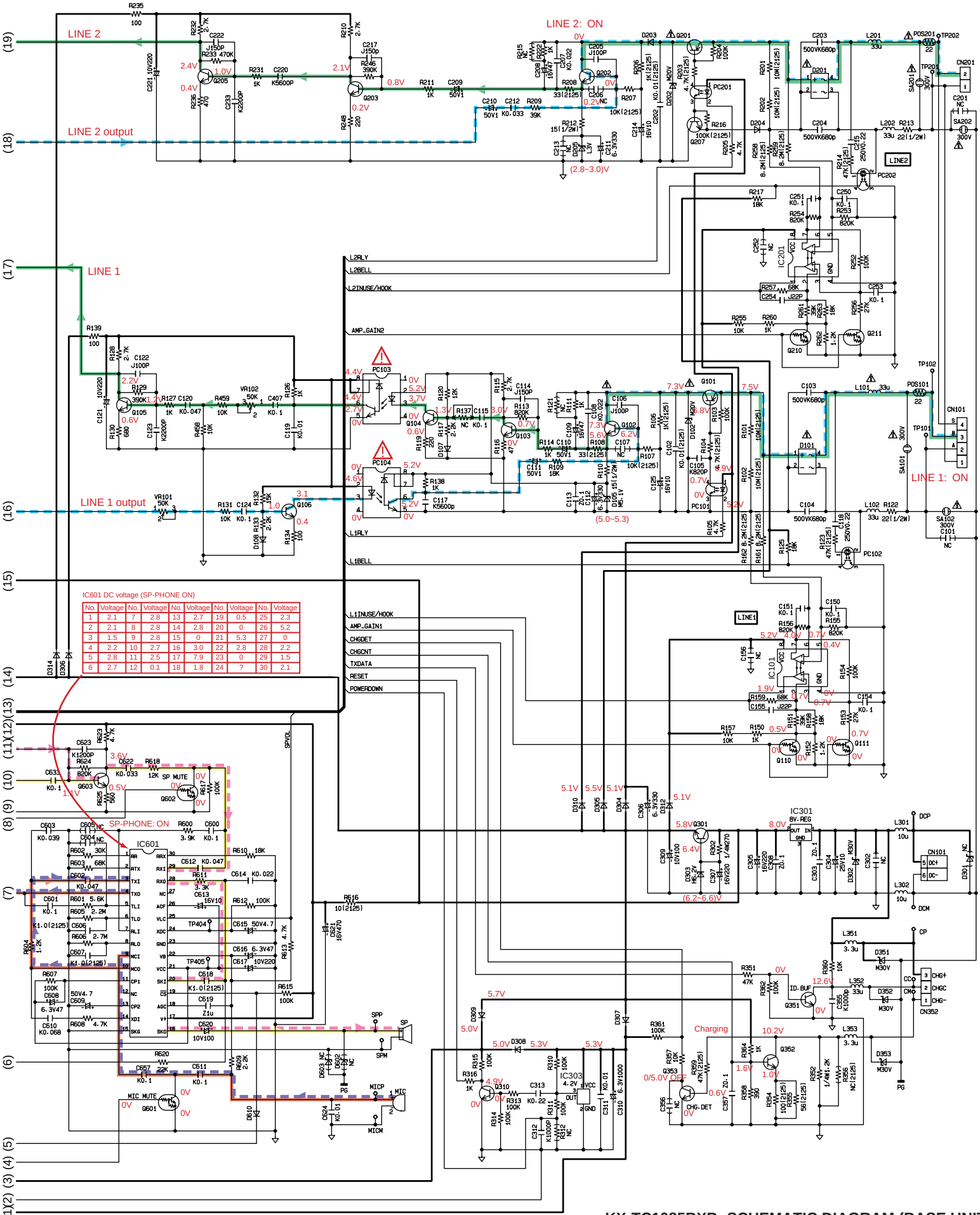
No.	Voltage	No.	Voltage
1	0	9	2.6
2	5.0	10	2.6
3	2.5	11	2.6
4	0	12	2.6
5	2.5	13	⎍⎍
6	2.5	14	⎍⎍
7	2.5	15	0
8	2.5	16	0

No.	Voltage	No.	Voltage	No.	Voltage	No.	Voltage
1	0	17	0	33	0	49	0
2	3.2	18	0	34	4.9	50	4.9
3	0	19	5.0	35	5.0	51	4.9
4	-	20	0	36	5.0	52	4.7
5	-	21	0	37	5.0	53	0
6	0	22	4.2	38	5.0	54	0
7	5.1	23	0	39	5.0	55	0
8	4.6	24	5.0	40	0	56	0
9	-	25	-	41	0	57	5.1
10	-	26	0	42	0	58	4.9
11	-	27	0	43	0	59	4.9
12	0	28	0	44	0	60	0
13	5.0	29	0	45	0	61	5.1
14	0	30	5.4	46	0	62	0
15	0	31	5.4	47	0	63	4.0
16	4.4	32	0	48	0	64	3.7



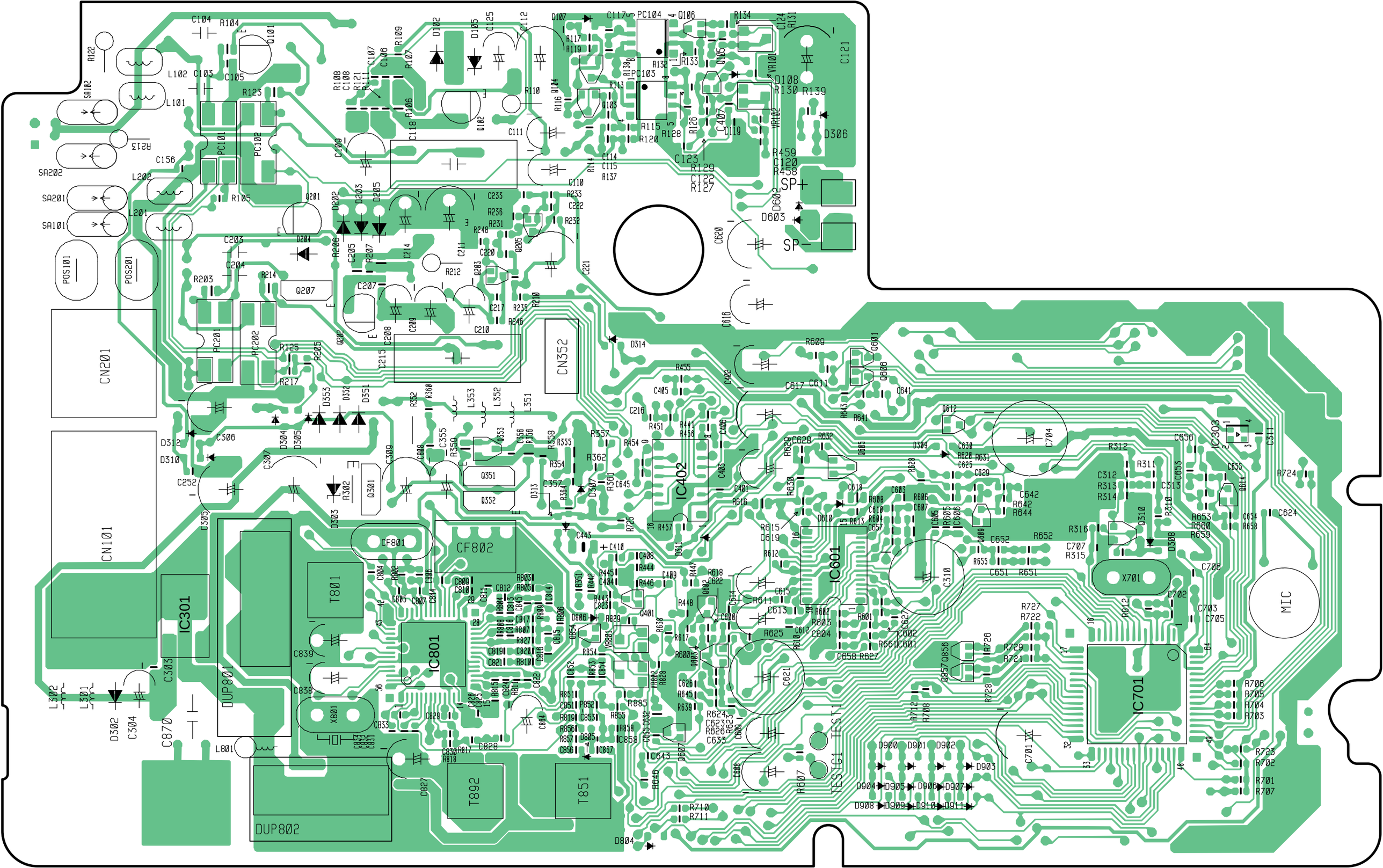
IC601 DC voltage (SP-PHONE ON)

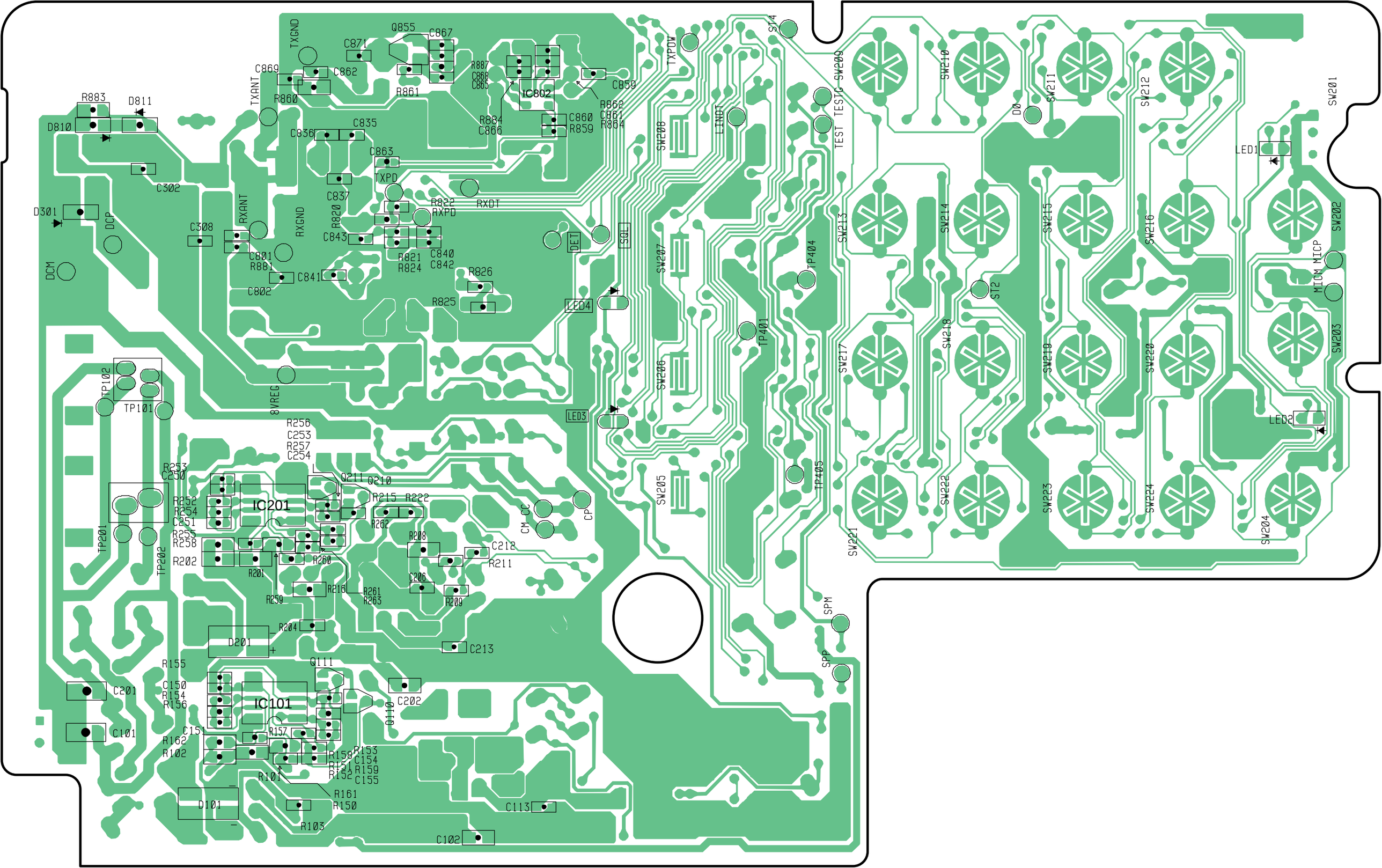
No.	Voltage	No.	Voltage	No.	Voltage	No.	Voltage	No.	Voltage
1	2.1	7	2.8	13	2.7	19	0.5	25	2.3
2	2.1	8	2.8	14	2.8	20	0	26	5.2
3	1.5	9	2.8	15	0	21	5.3	27	0
4	2.2	10	2.7	16	3.0	22	2.8	28	2.2
5	2.8	11	2.5	17	7.9	23	0	29	1.5
6	2.7	12	0.1	18	1.8	24	?	30	2.1

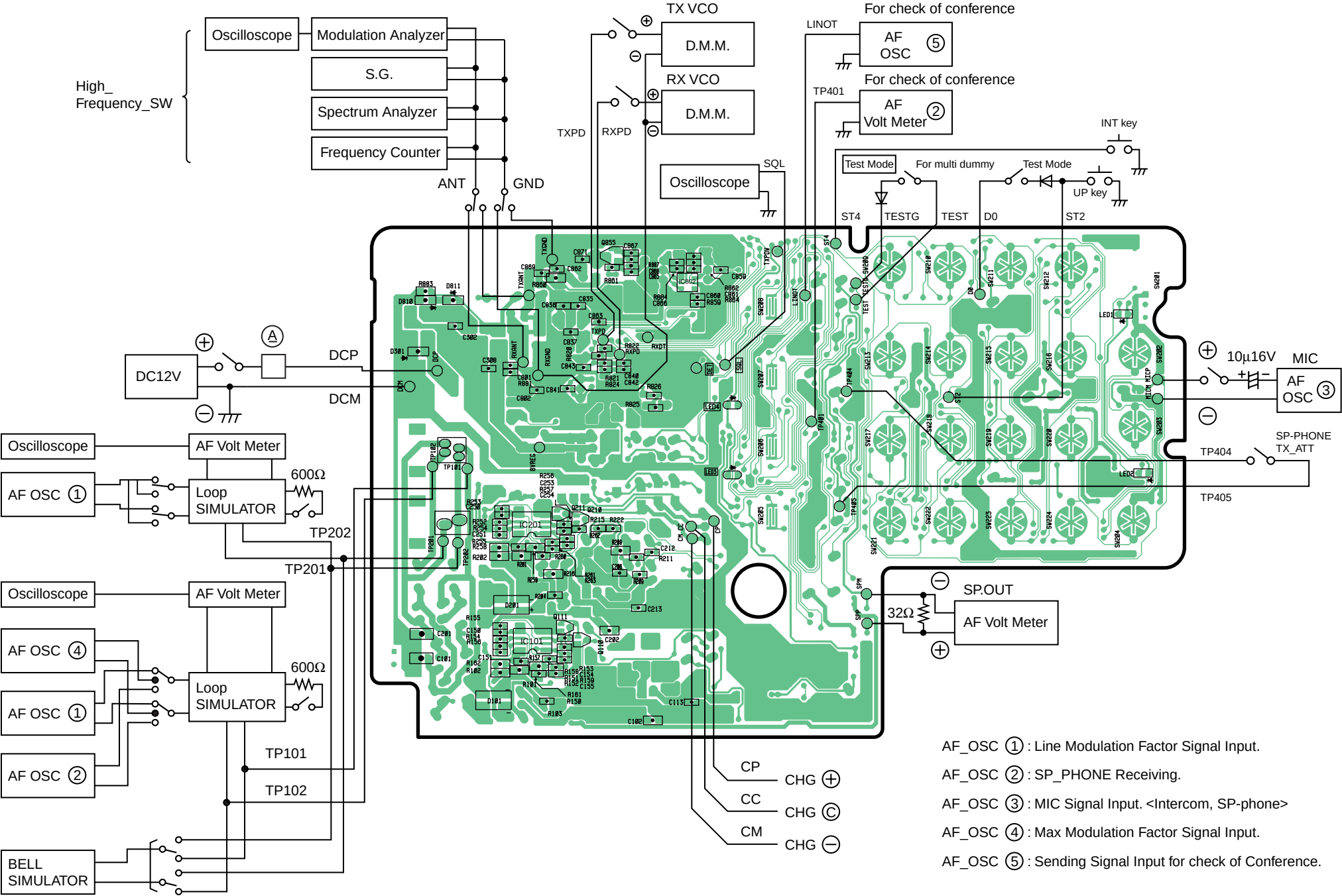


IC601 DC voltage (SP-PHONE ON)

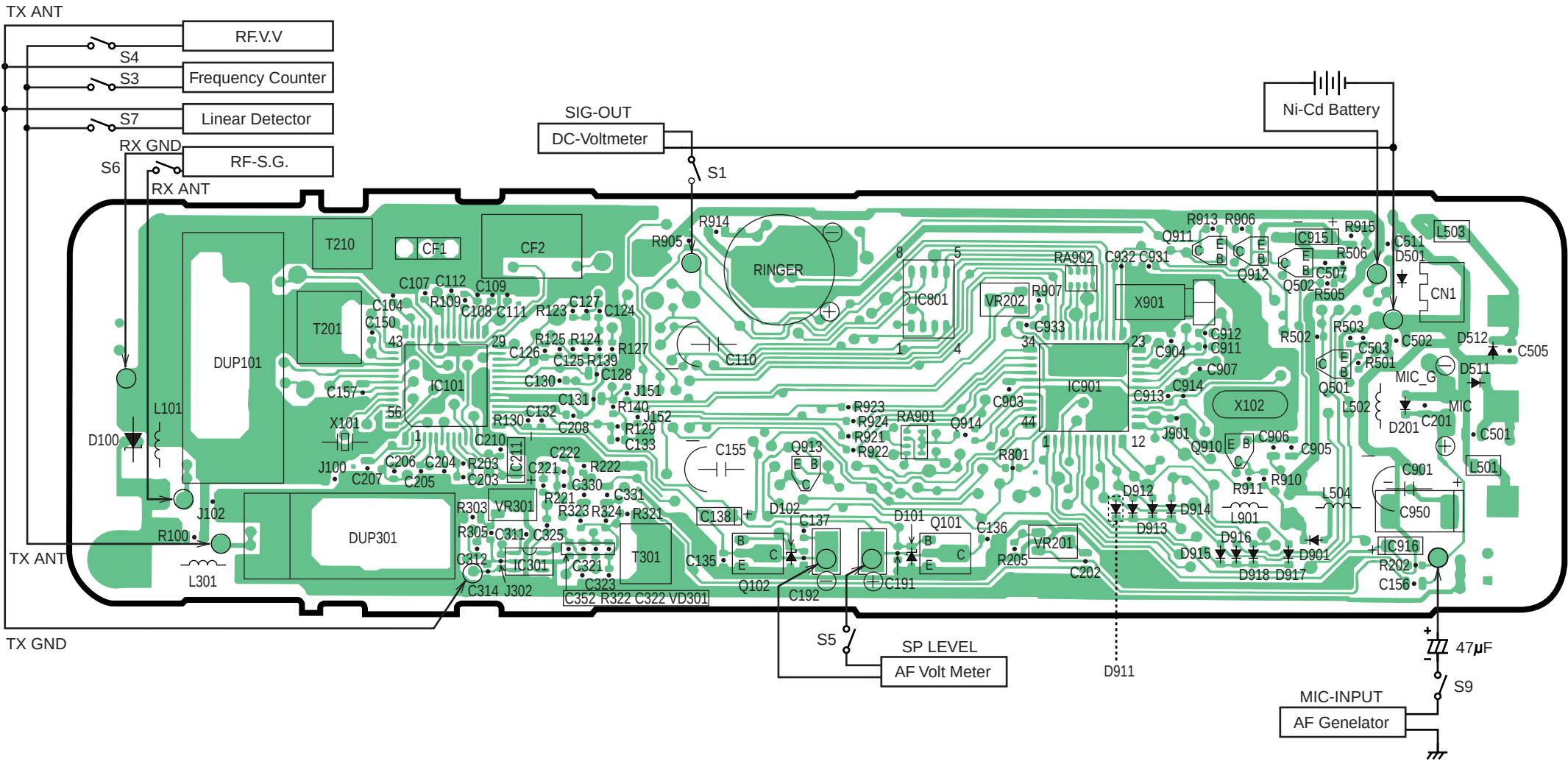
No.	Voltage	No.	Voltage	No.	Voltage	No.	Voltage	No.	Voltage
1	2.1	7	2.8	13	2.7	19	0.5	25	2.3
2	2.1	8	2.8	14	2.8	20	0	26	5.2
3	1.5	9	2.8	15	0	21	5.3	27	0
4	2.2	10	2.7	16	3.0	22	2.8	28	2.2
5	2.8	11	2.5	17	7.9	23	0	29	1.5
6	2.7	12	0.1	18	1.8	24	?	30	2.1


CN201
CN101
CN352
IC301
IC801
IC402
IC601
IC701
IC303
T801
T892
T851
CF801
CF802
DUP801
DUP802
X701
MIC
SP+
SP-
PC101
PC102
PC103
PC104
PC201
PC202
POS101
POS201
SA101
SA102
SA201
SA202
TEST1
TEST2

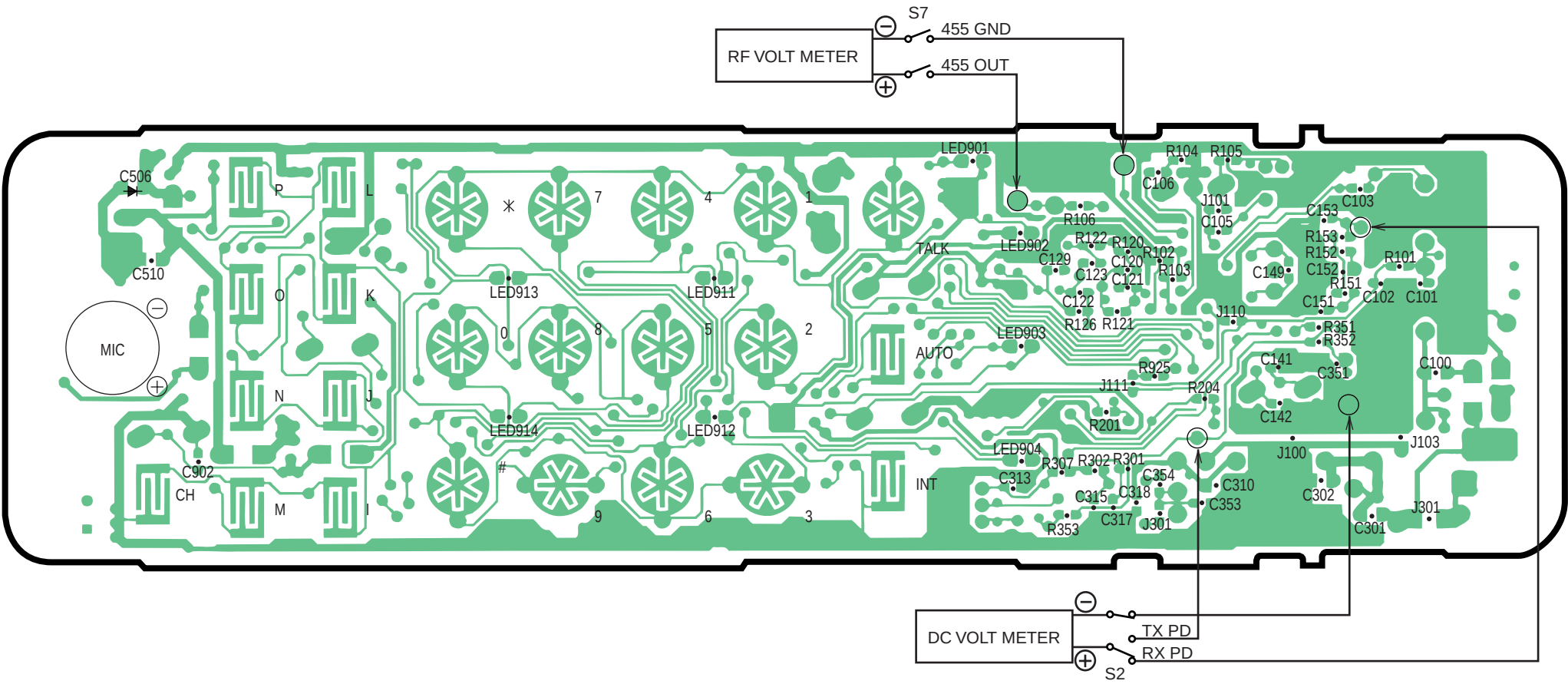

R883
D811
D810
C302
D301
DCP
DCM
C308
RXANT
RXGND
C801
R881
C802
C841
TXGND
C871
Q855
C867
C869
TXANT
C862
R860
R861
C836
C835
C863
TXPD
C837
R820
R822
RXPD
RXDT
C843
R821
R824
C840
C842
R826
R825
R887
C868
C865
IC802
R884
C866
C860
R859
C859
R862
C861
R864
DET
SQL
LED4
TXPOW
SW208
LINDT
SW207
SW206
ST4
TEST
TESTC
SW209
TP404
TP401
SW213
SW210
SW211
SW212
D0
SW214
SW215
SW216
ST2
SW218
SW219
SW220
SW217
SW201
LED1
SW202
MICN
MICP
SW203
LED2
SW205
TP405
SW222
SW223
SW224
SW204
SW221
SPM
SPP
LED3
8VREG
TP102
TP101
R256
C253
R257
C254
R253
C250
IC201
Q211
Q210
R215
R222
R262
R252
R254
C251
R255
R258
R202
TP201
TP202
R201
R260
R259
R208
C212
R211
C206
R209
R216
R261
R263
CM
CC
CP
R204
D201
C213
R155
C150
R154
R156
IC101
Q111
C202
Q110
C201
C101
C151
R162
R102
R157
R158
R151
R152
R153
C154
R159
C155
R101
R161
R150
D101
R103
C113
C102

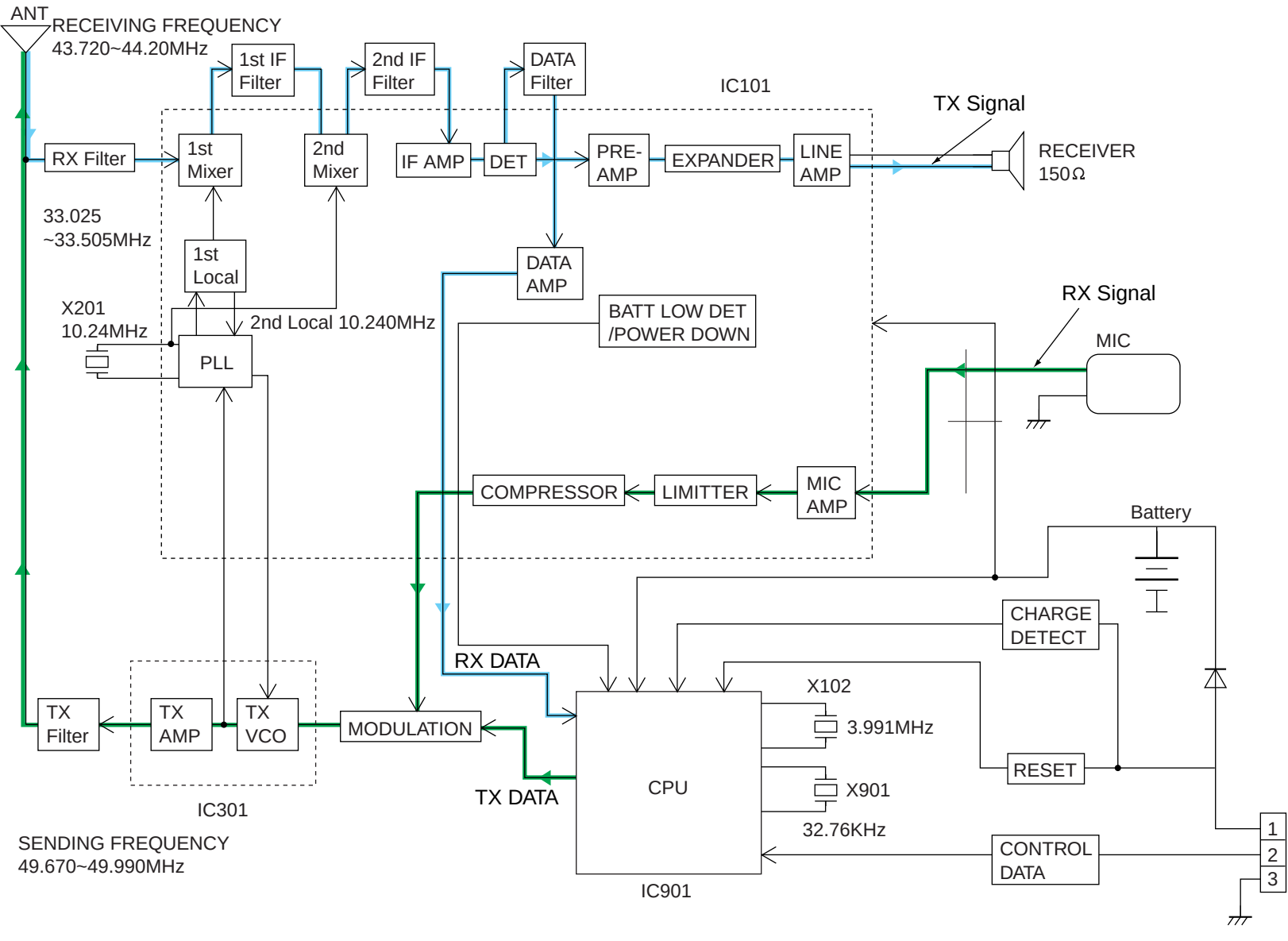

High_
Frequency_SW
Oscilloscope
Modulation Analyzer
S.G.
Spectrum Analyzer
Frequency Counter
ANT
GND
TX VCO
D.M.M.
RX VCO
D.M.M.
TXPD
RXPD
Oscilloscope
SQL
For check of conference
LINOT
AF
OSC
⑤
For check of conference
TP401
AF
Volt Meter
②
INT key
Test Mode
For multi dummy
Test Mode
UP key
ST4
TESTG
TEST
D0
ST2
DC12V
A
DCP
DCM
Oscilloscope
AF Volt Meter
AF OSC ①
Loop
SIMULATOR
600Ω
TP202
TP201
Oscilloscope
AF Volt Meter
AF OSC ④
AF OSC ①
AF OSC ②
Loop
SIMULATOR
600Ω
TP101
TP102
BELL
SIMULATOR
10μ16V
MIC
AF
OSC
③
SP-PHONE
TX_ATT
TP404
TP405
SP.OUT
32Ω
AF Volt Meter
CP
CHG ⊕
CC
CHG Ⓒ
CM
CHG ⊖
AF_OSC ① : Line Modulation Factor Signal Input.
AF_OSC ② : SP_PHONE Receiving.
AF_OSC ③ : MIC Signal Input. <Intercom, SP-phone>
AF_OSC ④ : Max Modulation Factor Signal Input.
AF_OSC ⑤ : Sending Signal Input for check of Conference.

(Component View)



(Flow Solder Side View)




ANT
RECEIVING FREQUENCY
43.720~44.20MHz
1st IF Filter
2nd IF Filter
DATA Filter
IC101
TX Signal
RX Filter
1st Mixer
2nd Mixer
IF AMP
DET
PRE-AMP
EXPANDER
LINE AMP
RECEIVER
150Ω
33.025
~33.505MHz
1st Local
DATA AMP
X201
10.24MHz
2nd Local 10.240MHz
PLL
BATT LOW DET
/POWER DOWN
RX Signal
MIC
COMPRESSOR
LIMITTER
MIC AMP
Battery
CHARGE DETECT
RX DATA
X102
3.991MHz
TX Filter
TX AMP
TX VCO
MODULATION
CPU
RESET
X901
32.76KHz
TX DATA
IC301
SENDING FREQUENCY
49.670~49.990MHz
CONTROL DATA
IC901
1
2
3